

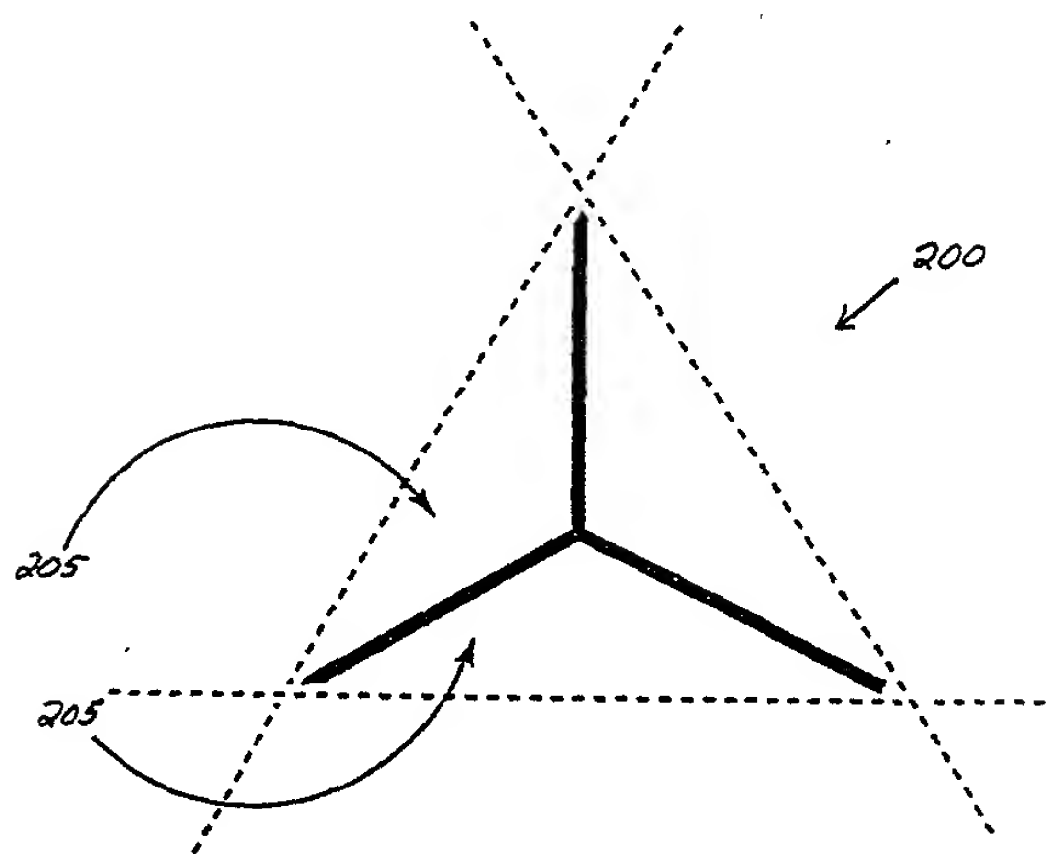
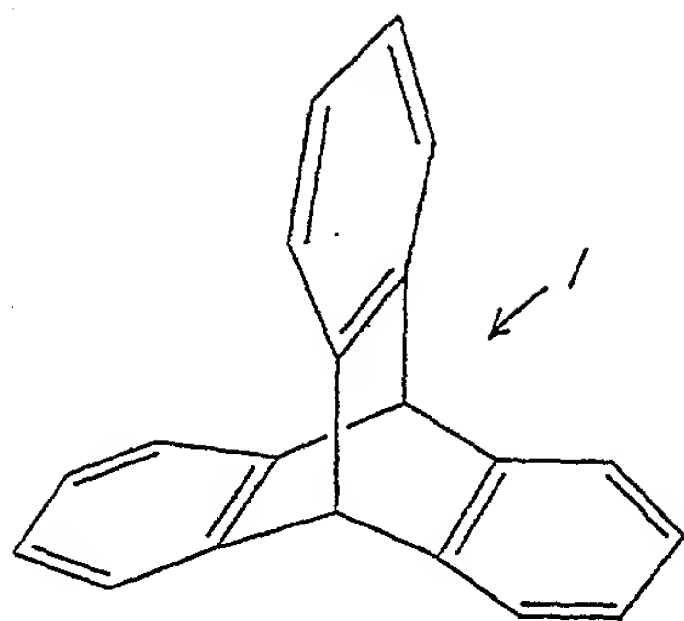
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BY: Timothy M. Swager

FIG. 1A
PRIOR ART



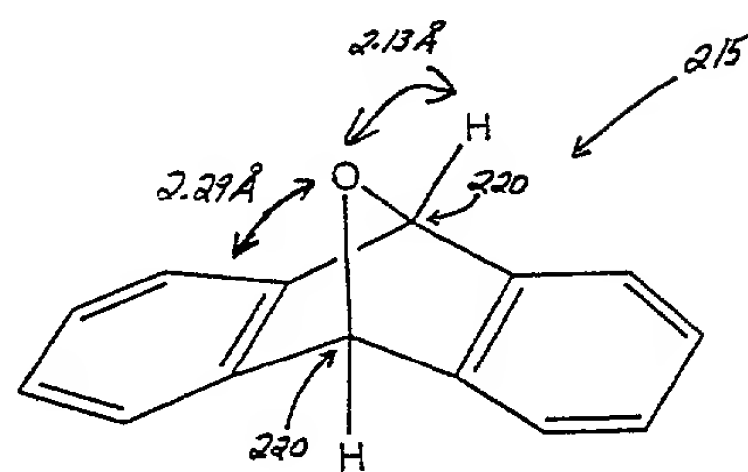
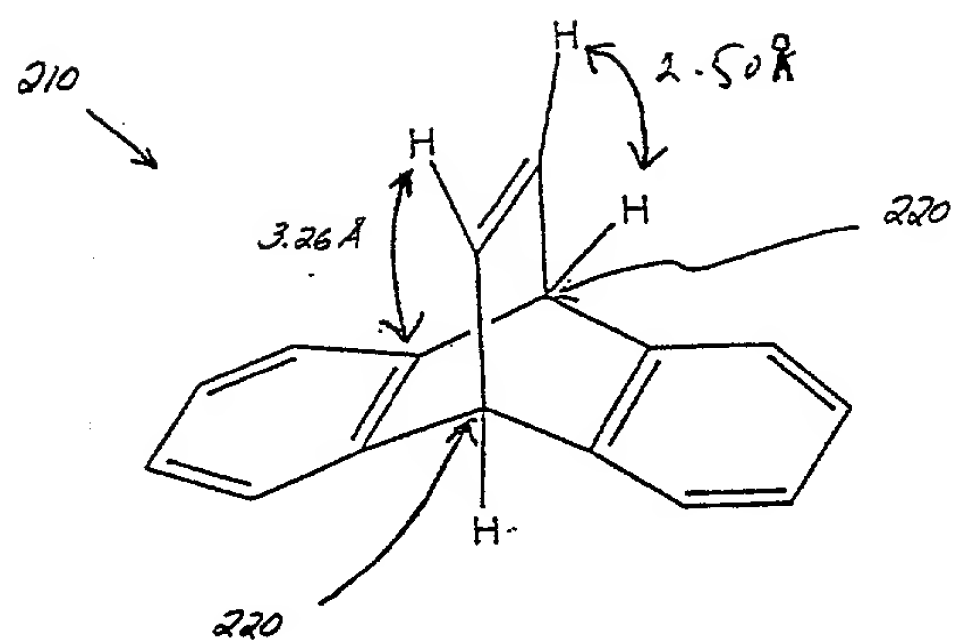


Fig. 1B

Prior Art

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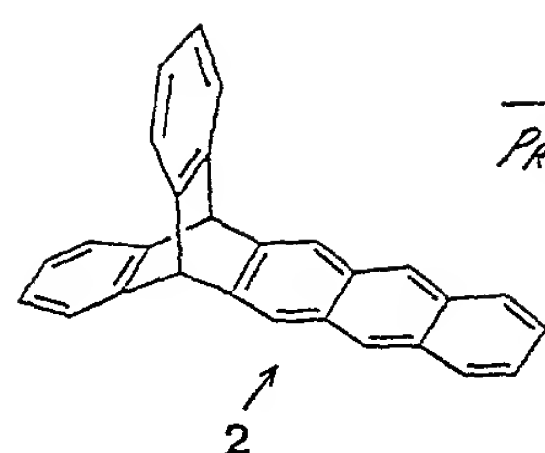
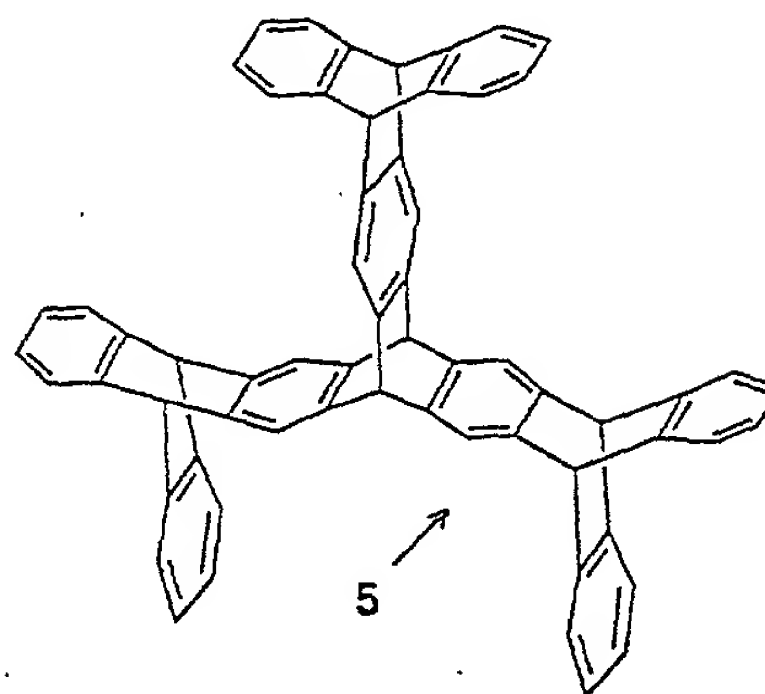
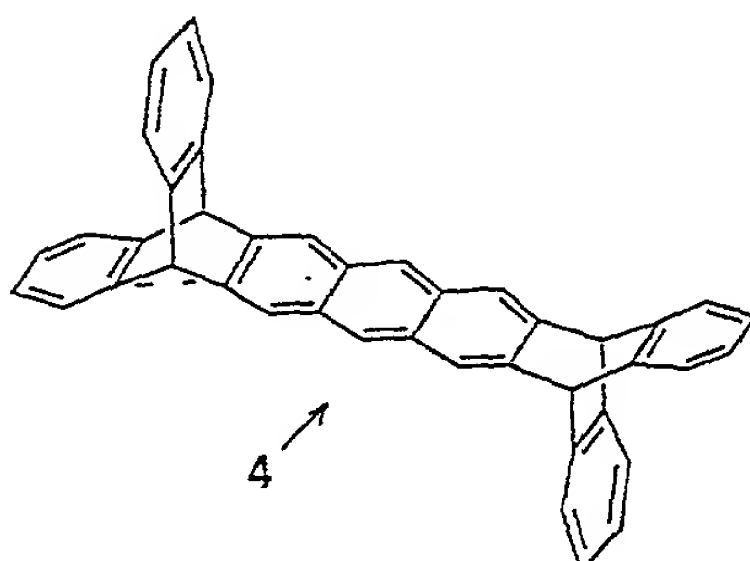
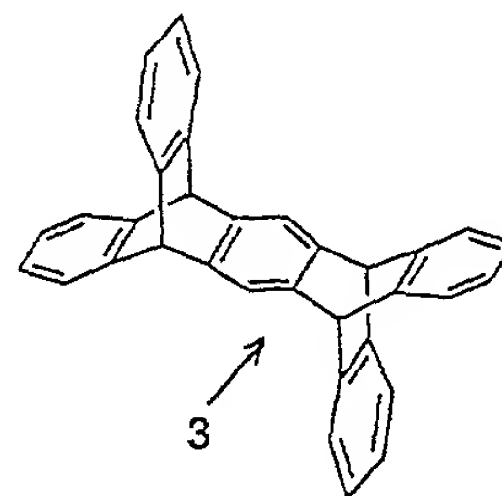


FIG. 1C
PRIOR ART



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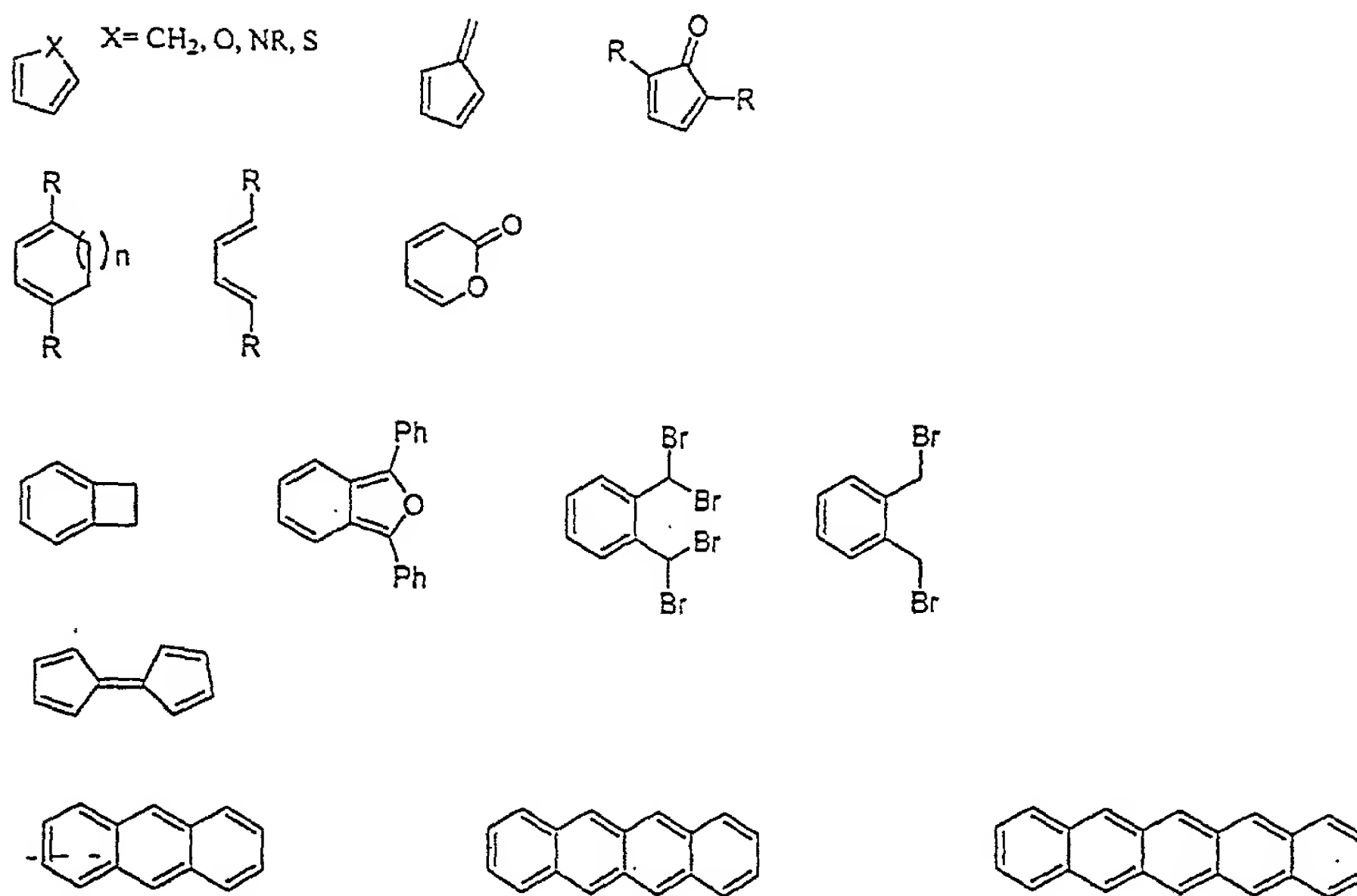


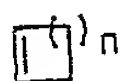
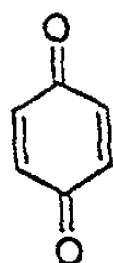
Fig. 1e

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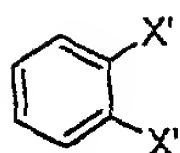
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X = CH₂, C=O, O, NR, S



X' = Cl, Br, I

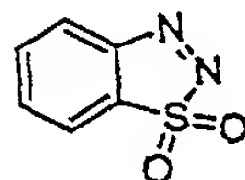
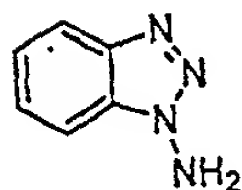
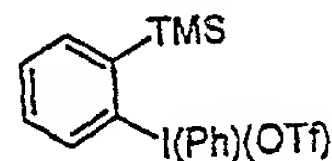
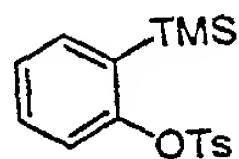
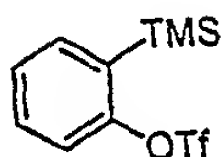
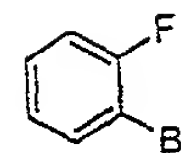
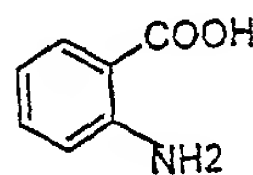
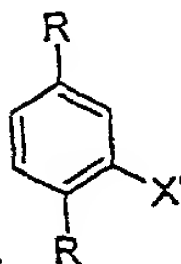


Fig. 1f

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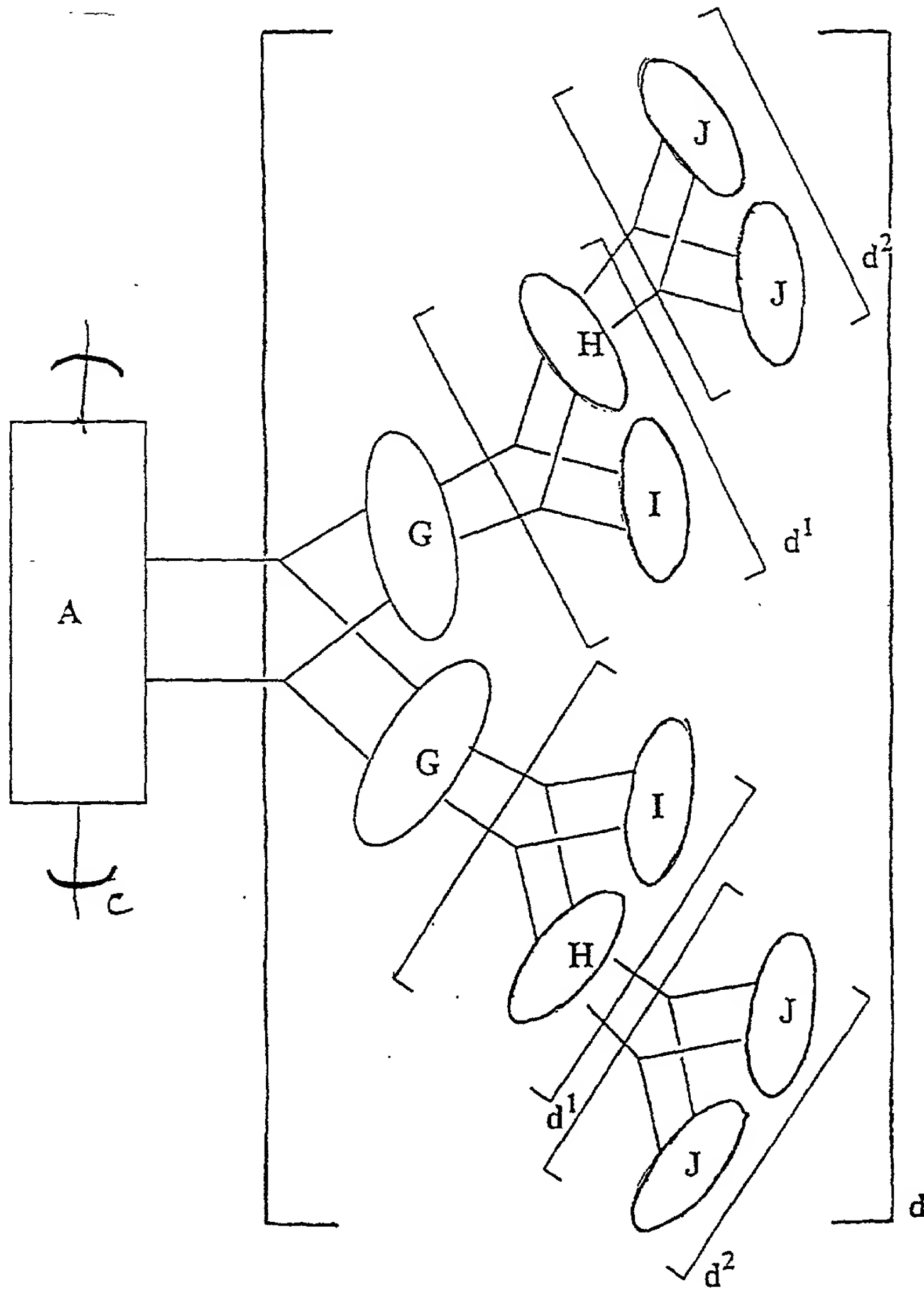


FIG. 1g

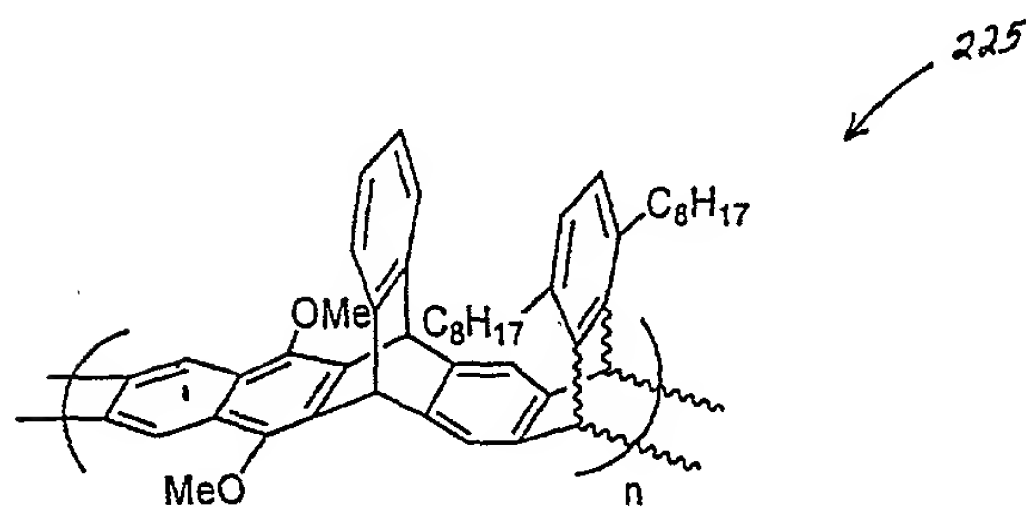
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TITLE: Polymers with high internal free volume

BY: Timothy M. Swager

FIG. 1H



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TITLE: Polymers with high internal free volume

BY: Timothy M. Swager

FIG. 1J

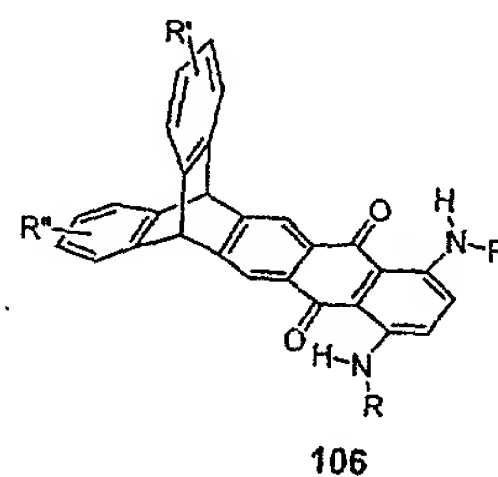
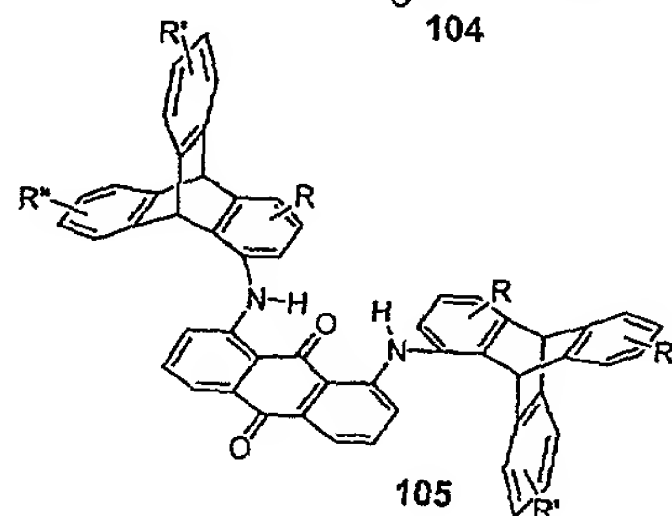
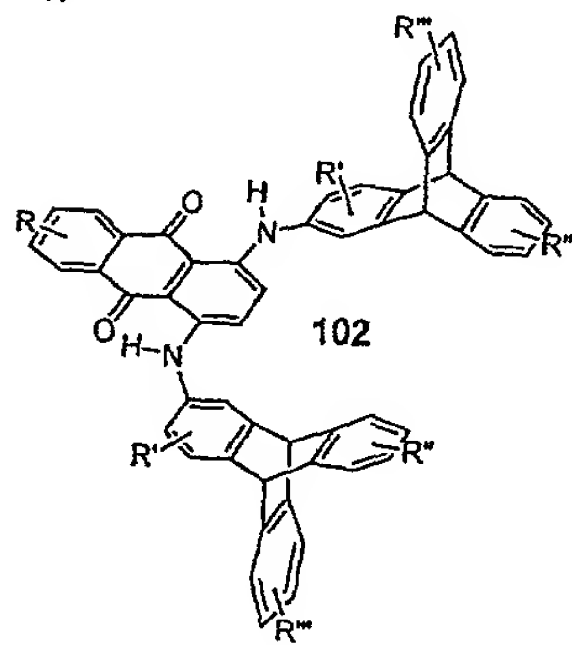
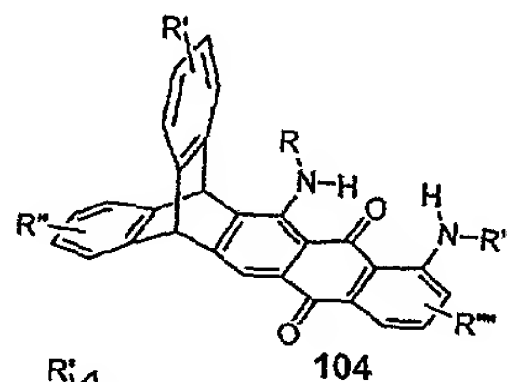
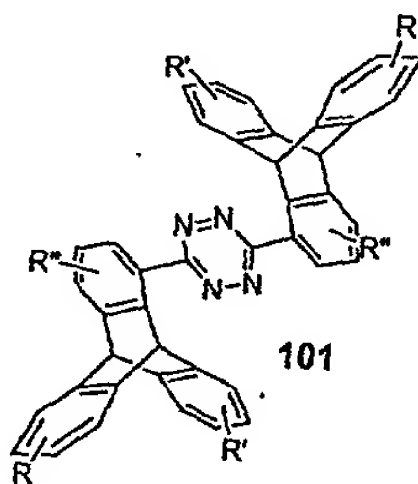
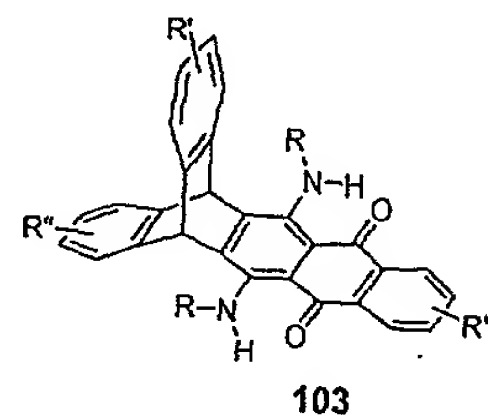
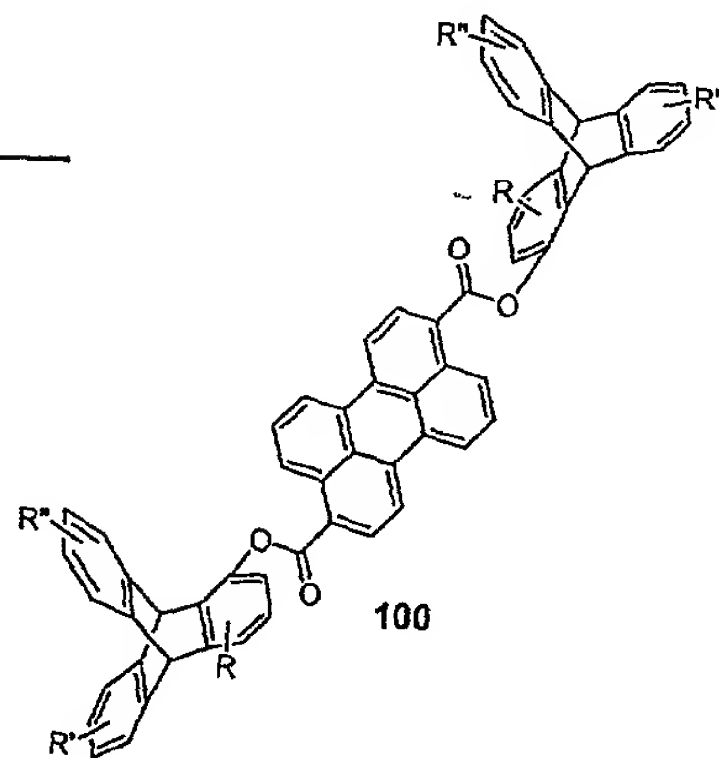
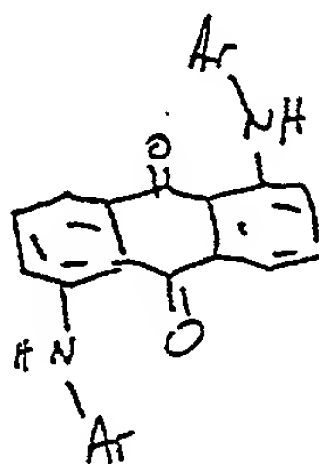
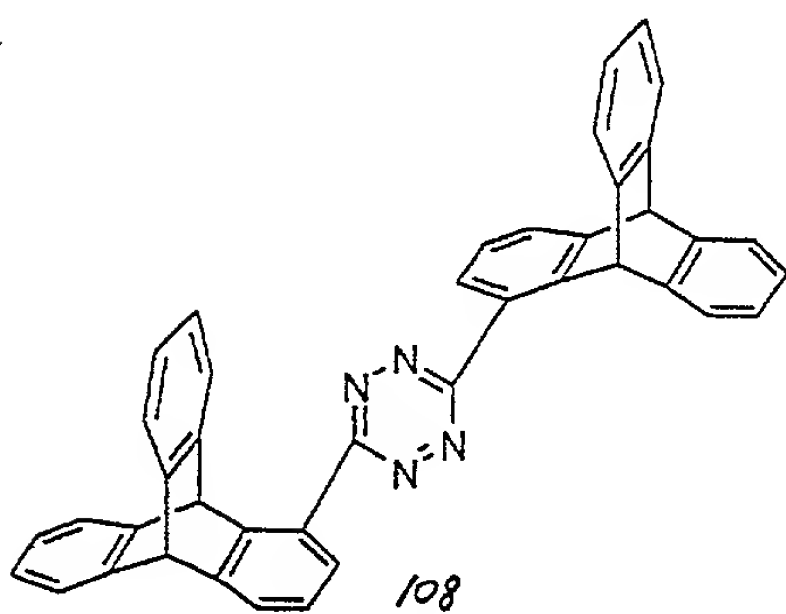
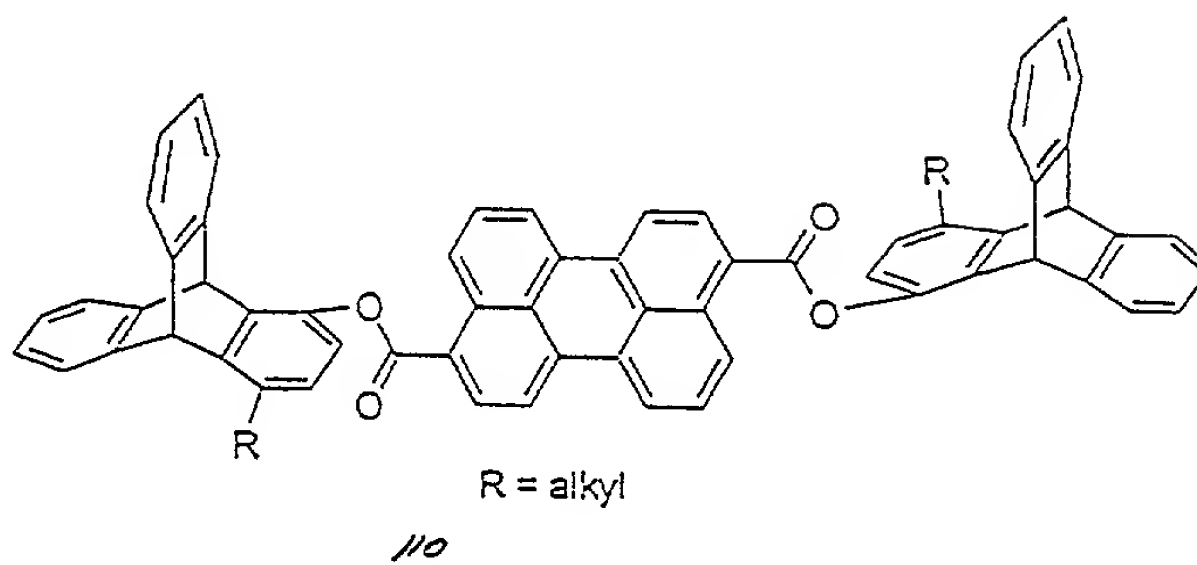
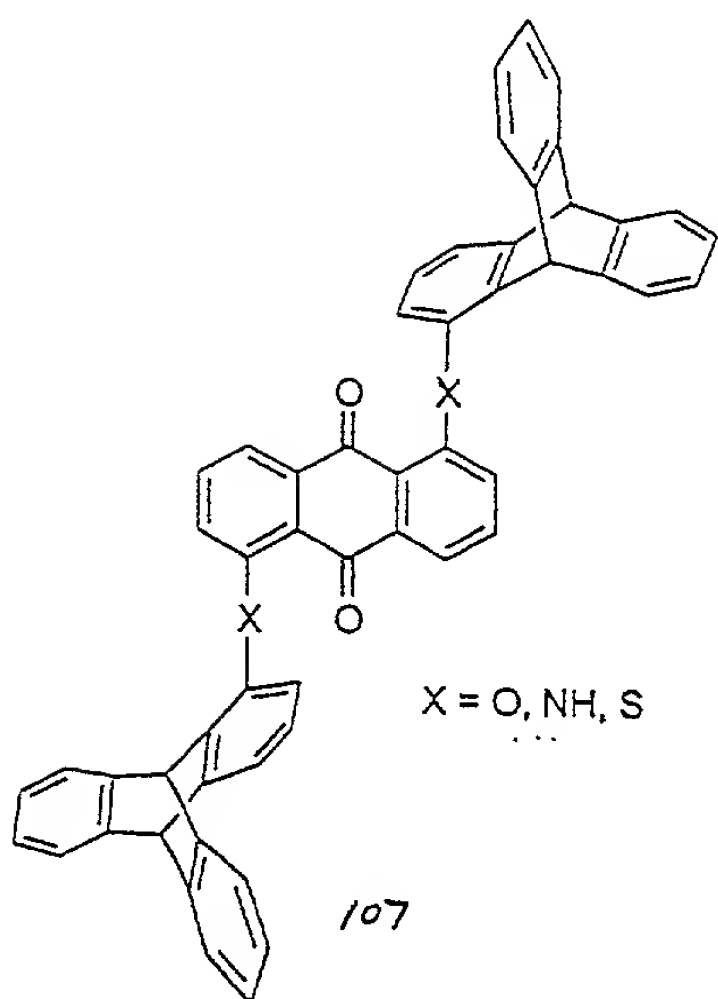


FIG. 1K



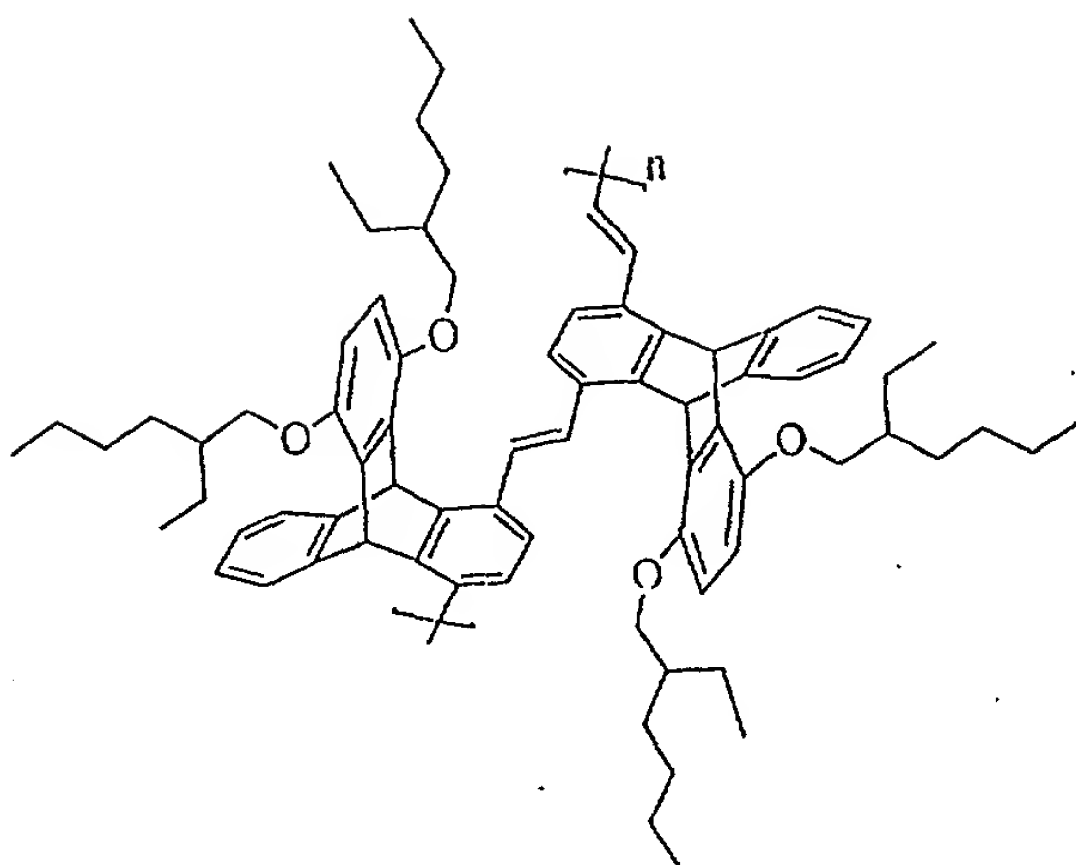
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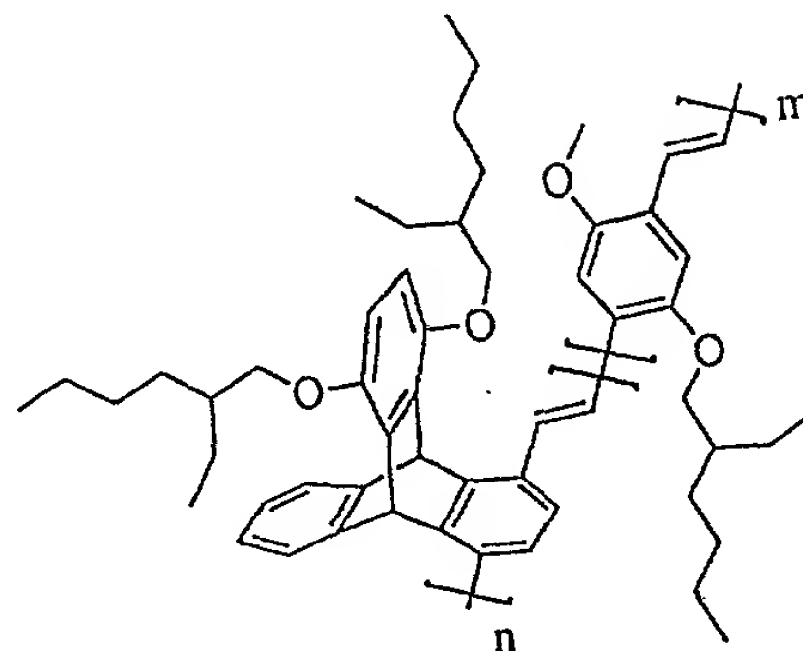
TITLE: Polymers with high internal free volume

BY: Timothy M. Swager

FIG. 1L

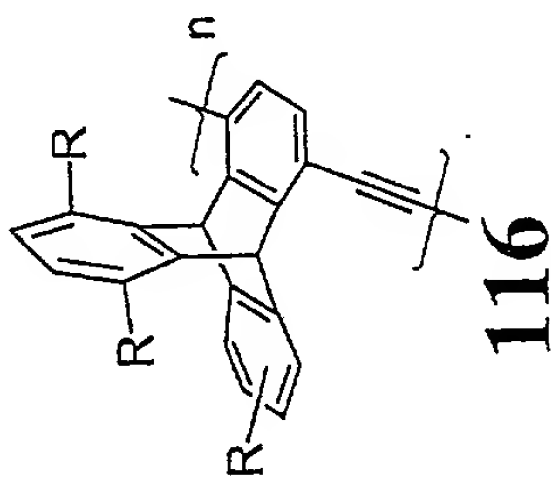
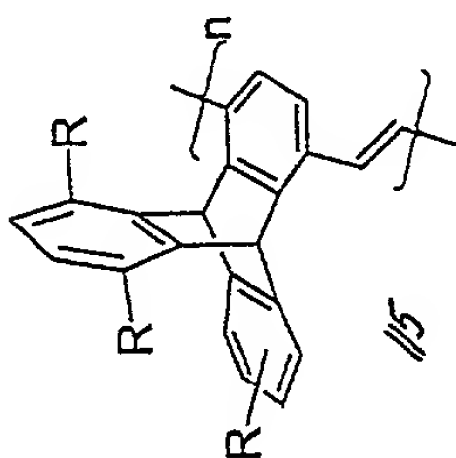
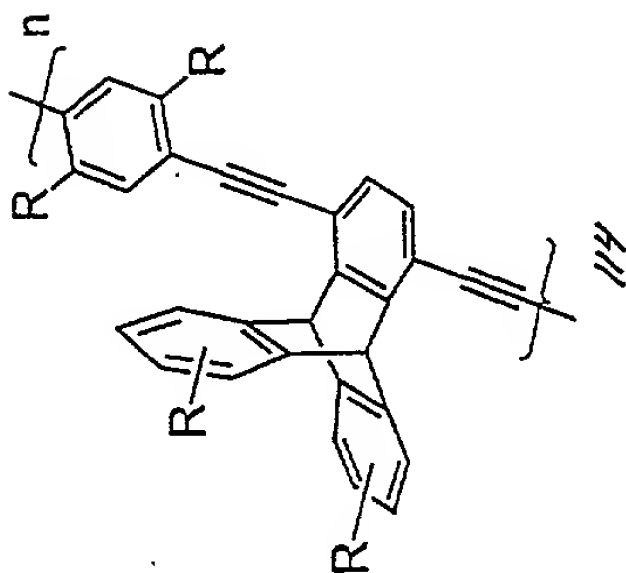
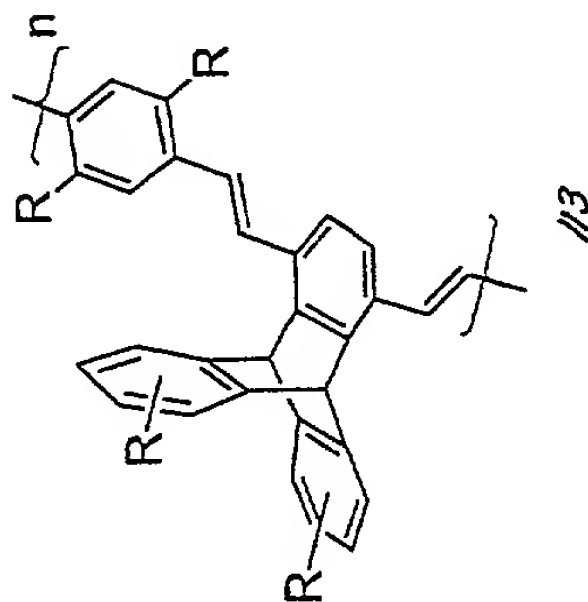


III



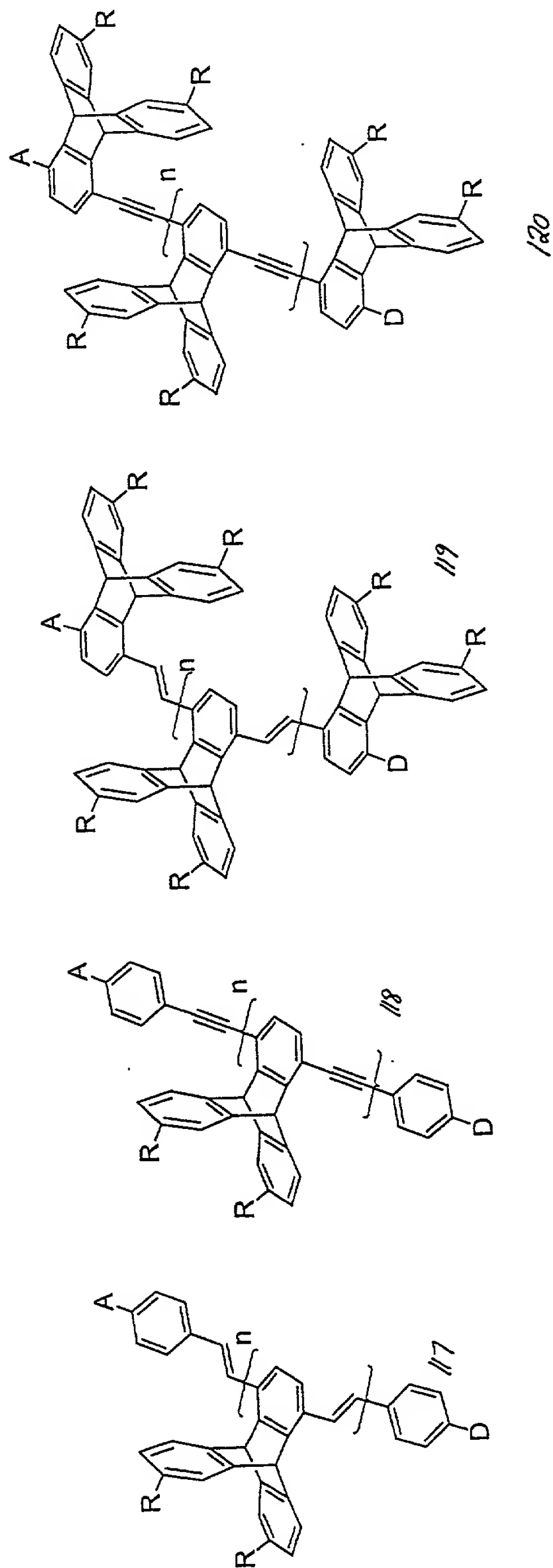
112

Fig. 1M

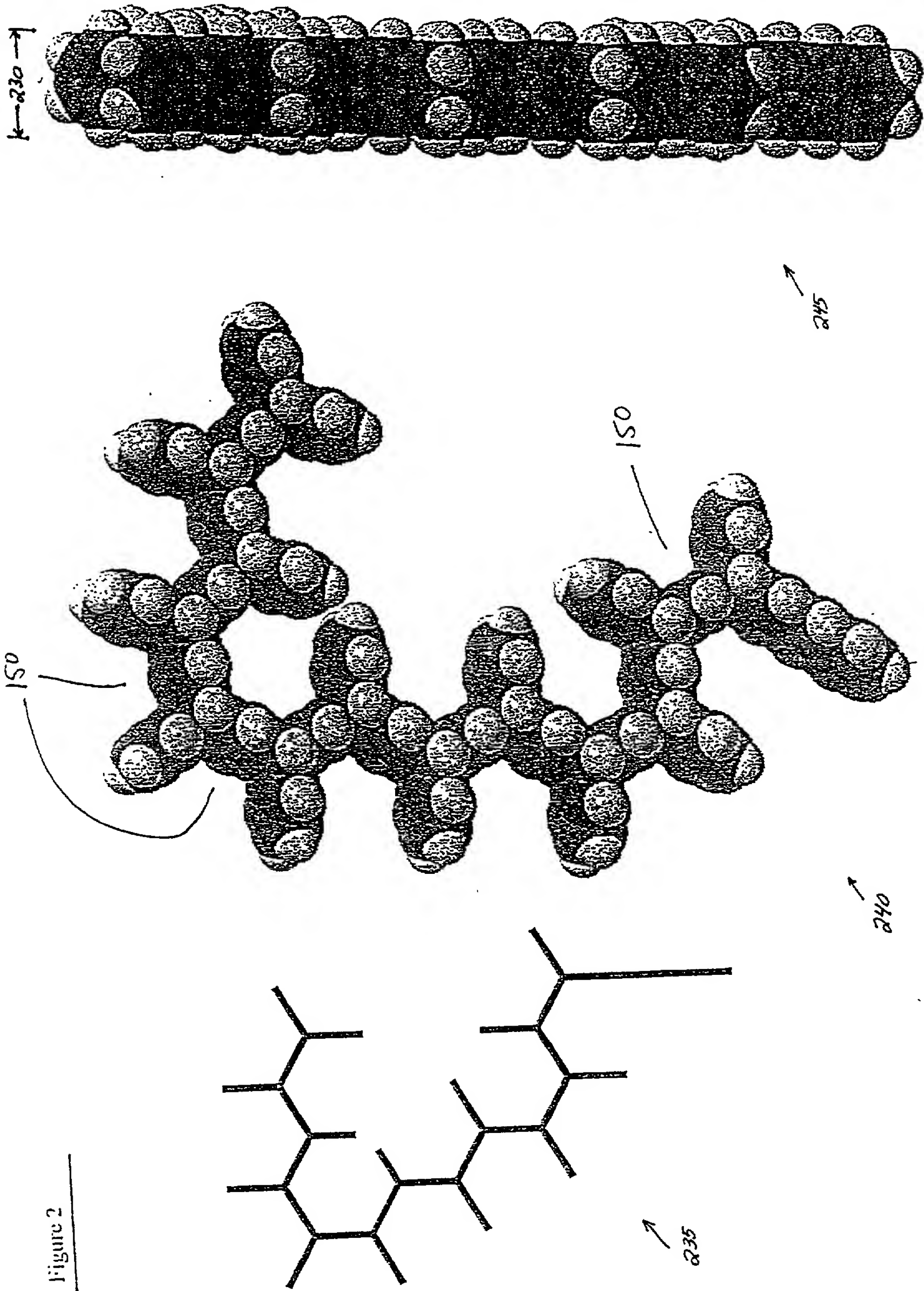


$R = C_nH_{2n+1}, C_nF_{2n+1}, OC_nH_{2n+1}$

Fig. 1N



A = CN, C_nF_{2n+1} ;
D = $N(C_nH_{2n+1})_2$, OC_nH_{2n+1} ;
R = C_nH_{2n+1} , C_nF_{2n+1} , OC_nH_{2n+1}



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FIG. 2A

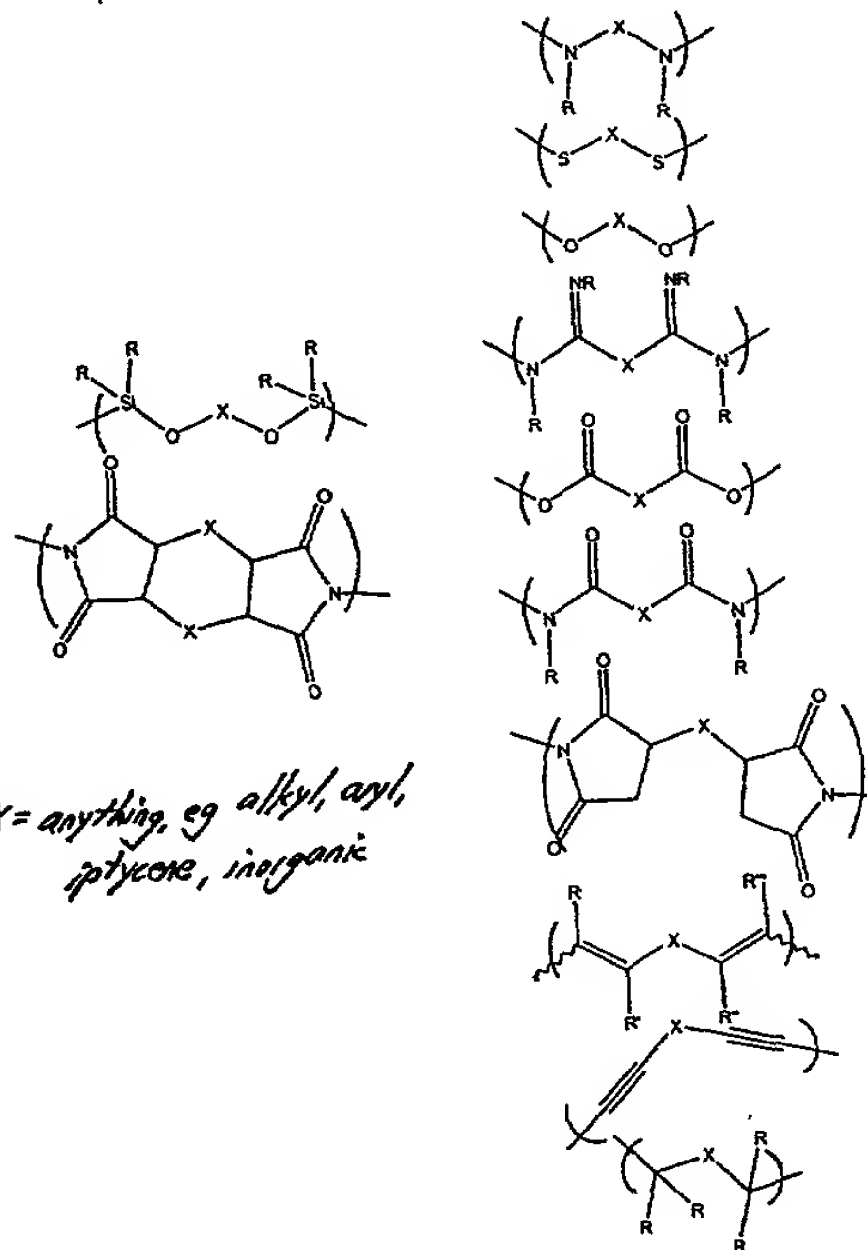


FIG. 2B

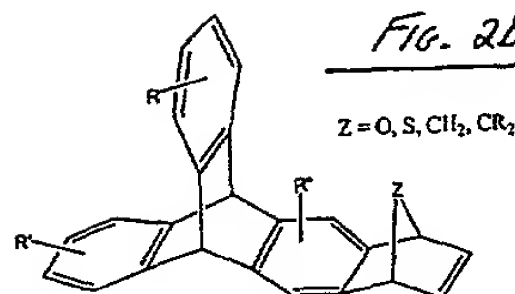
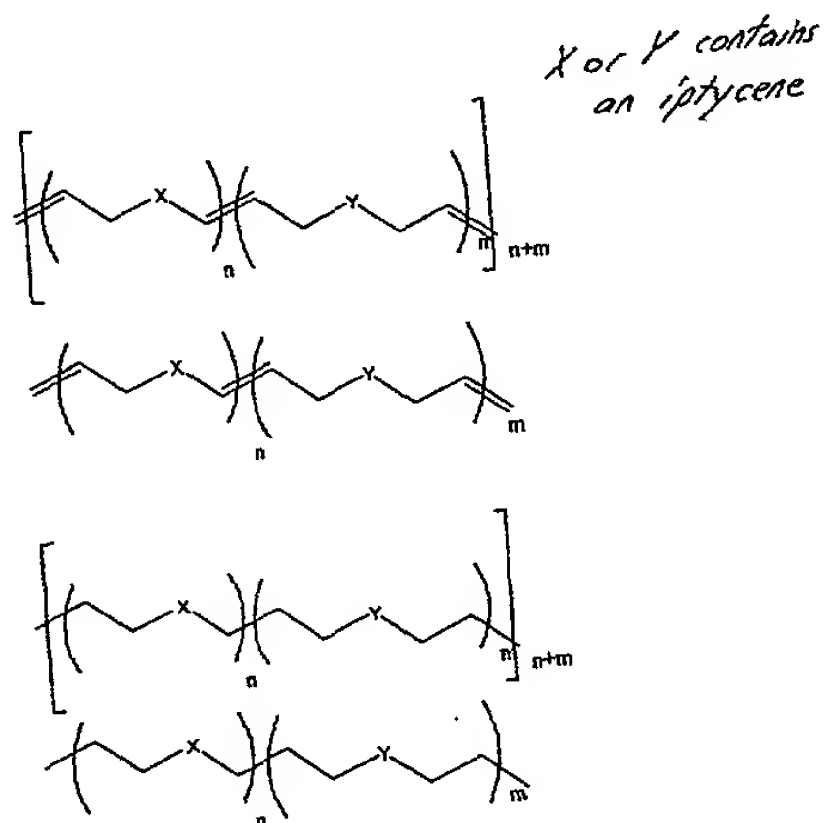


FIG. 2C



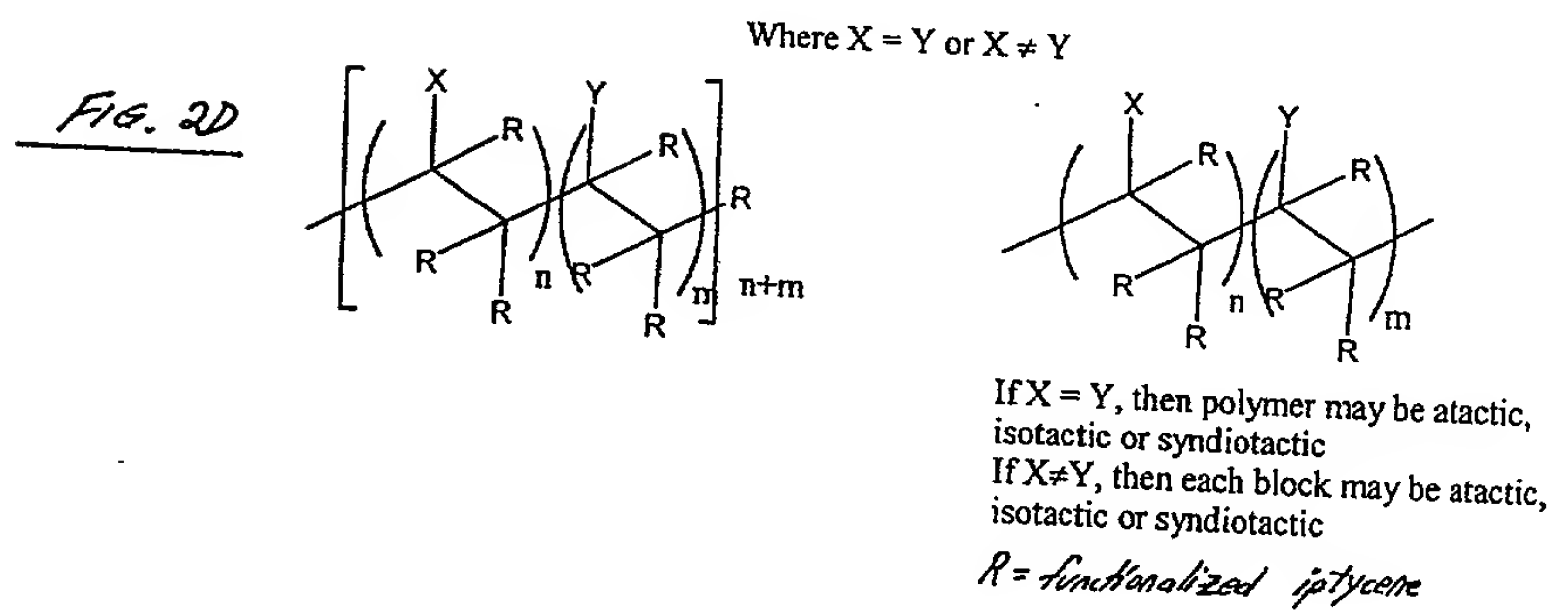
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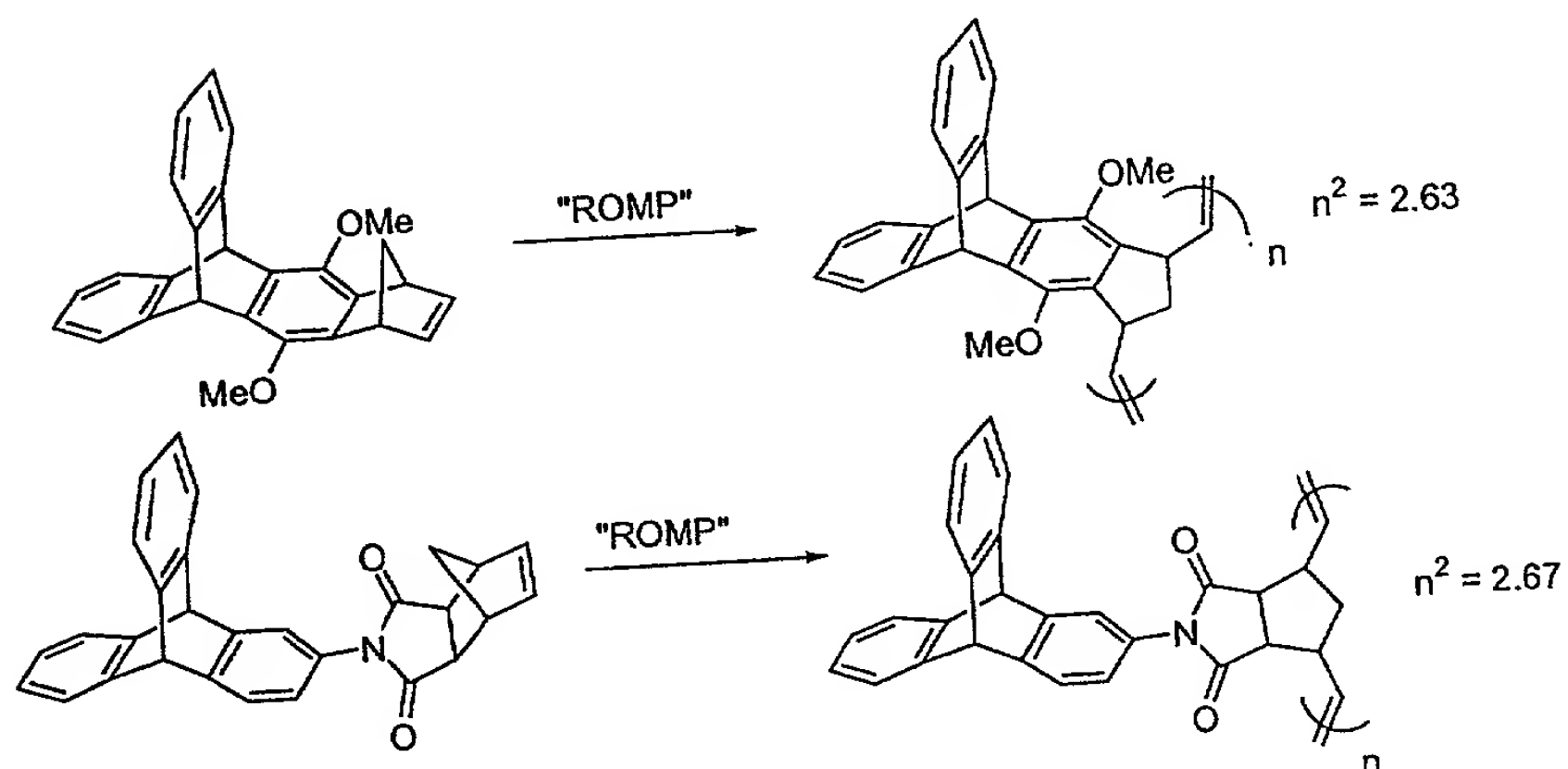
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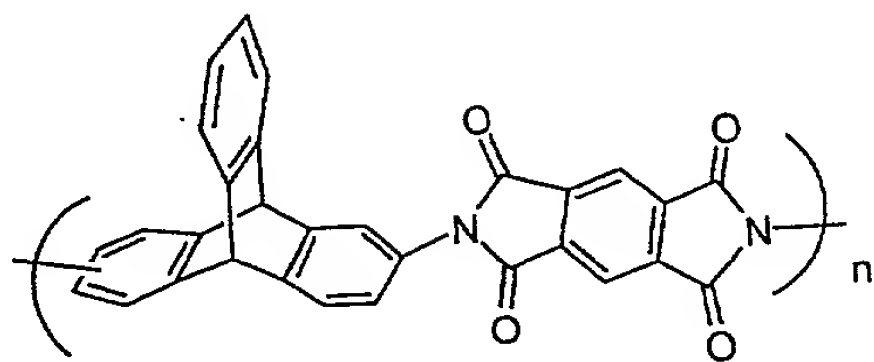
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FIG. 2E



Random co-polymer : $n^2 = 2.72$



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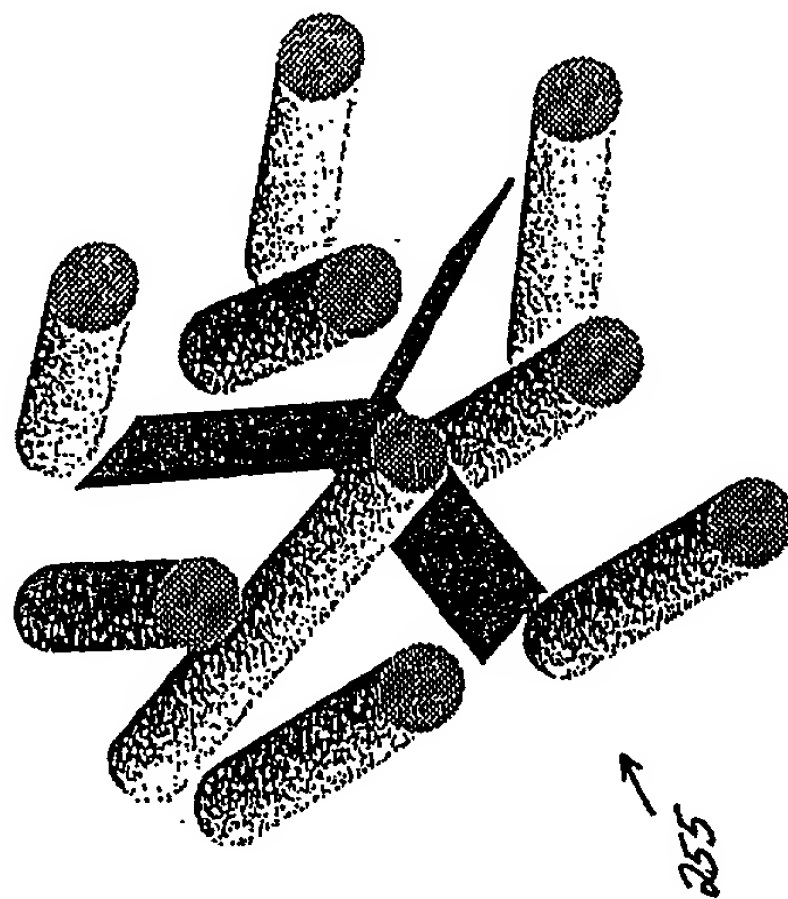
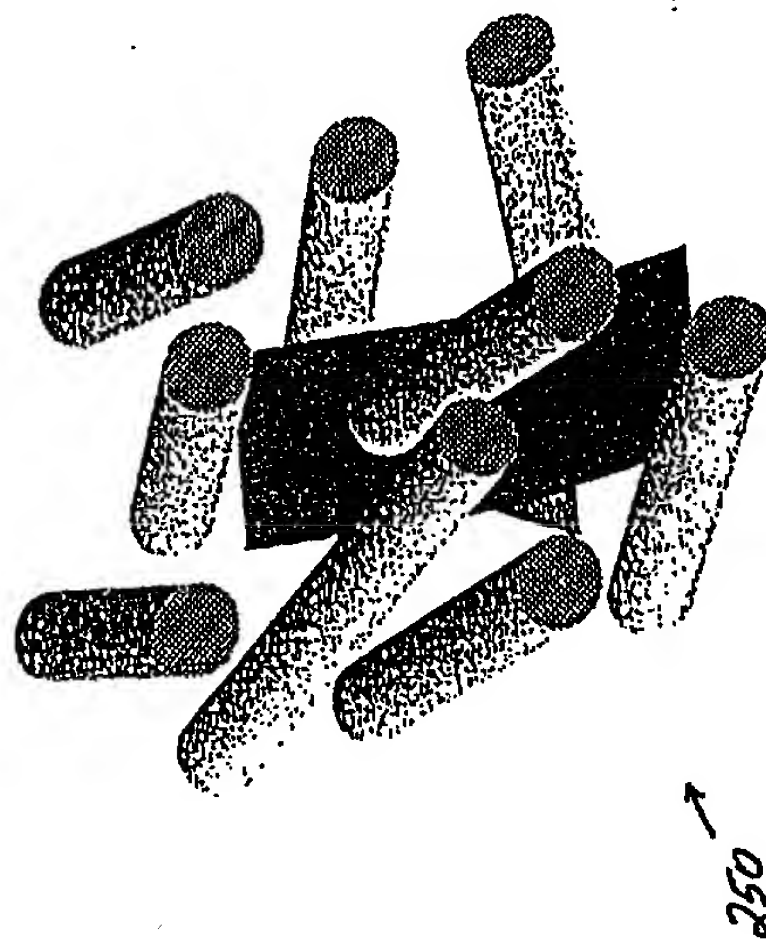


Fig. 3

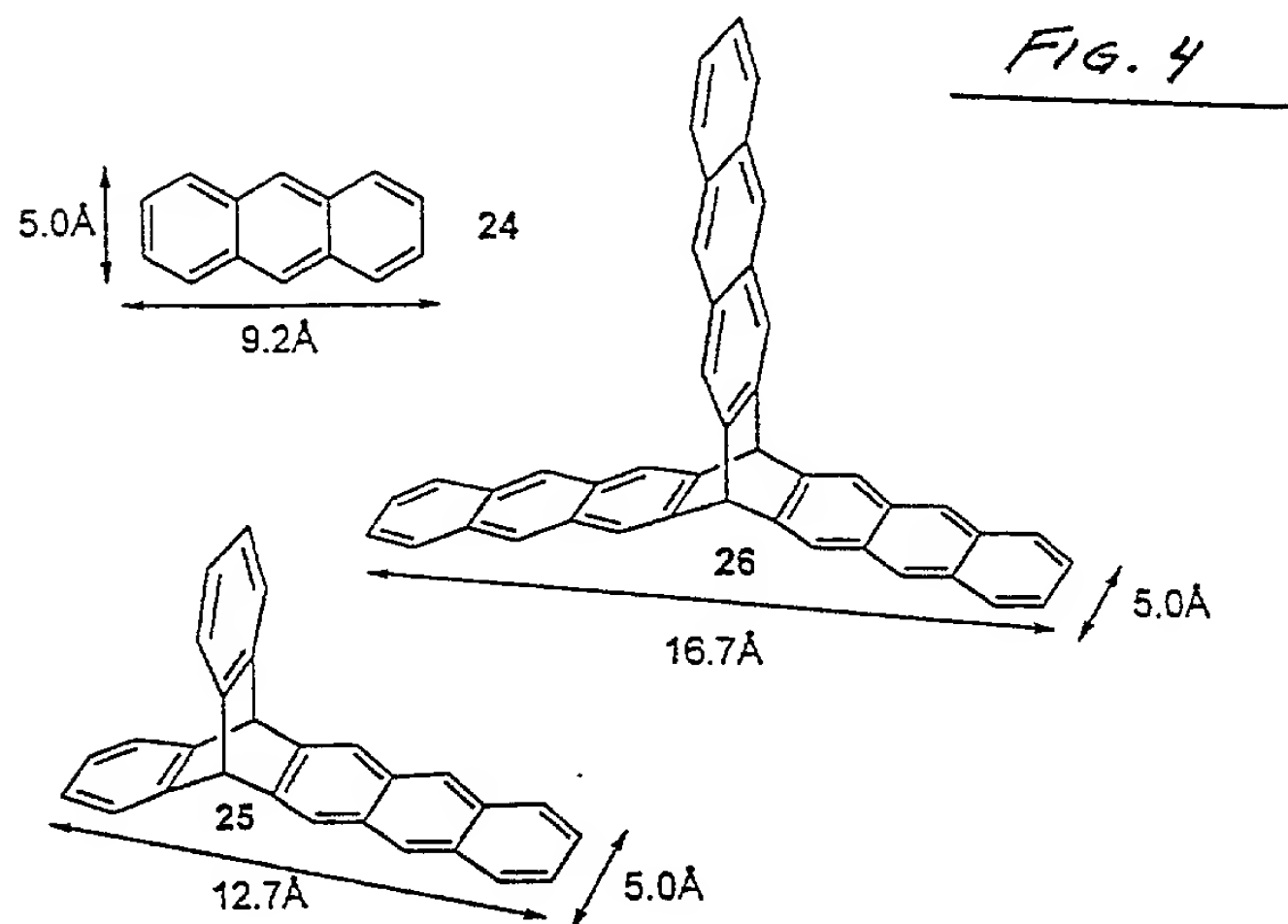


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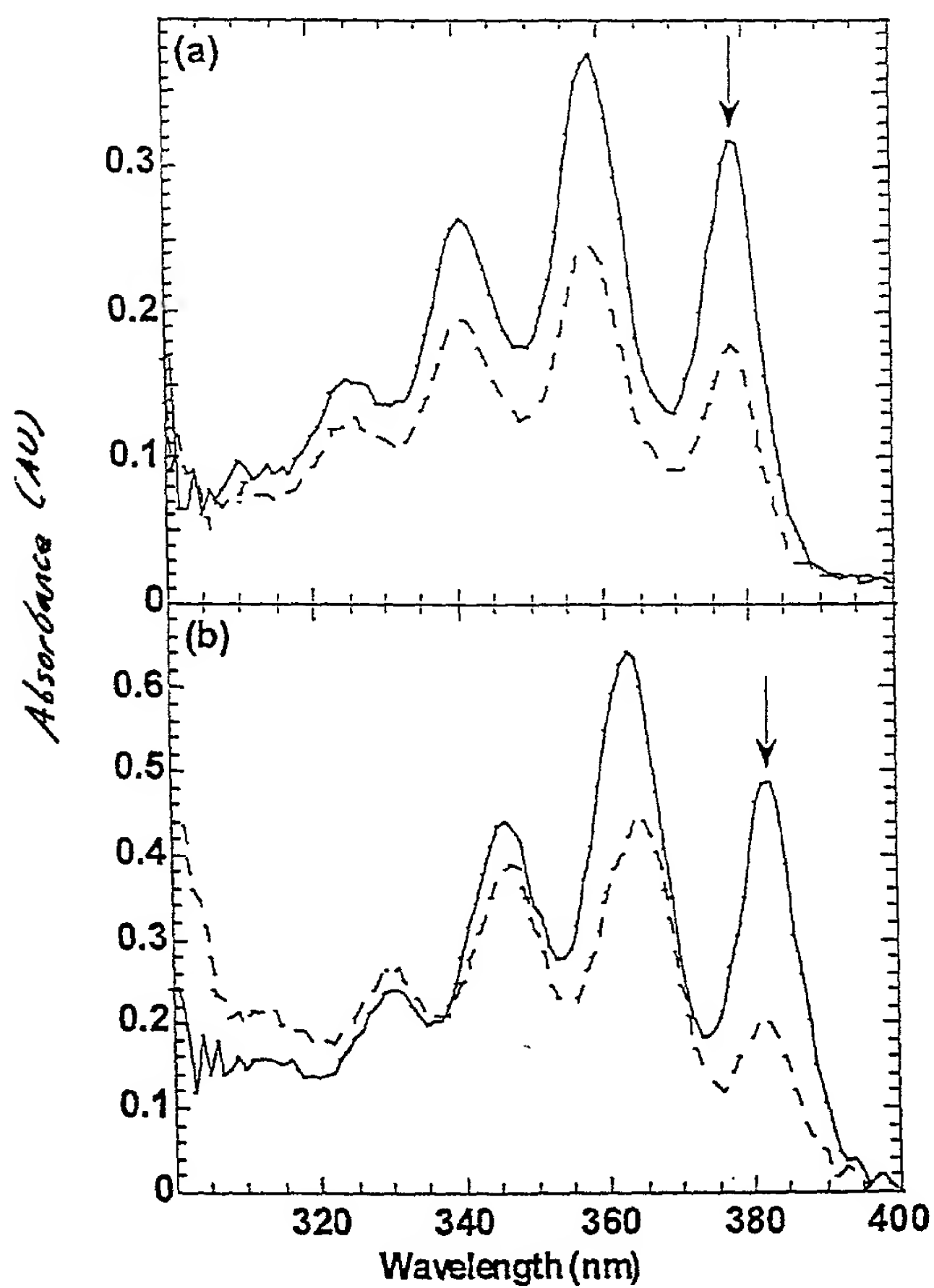
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FIG. 5



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Fig. 6

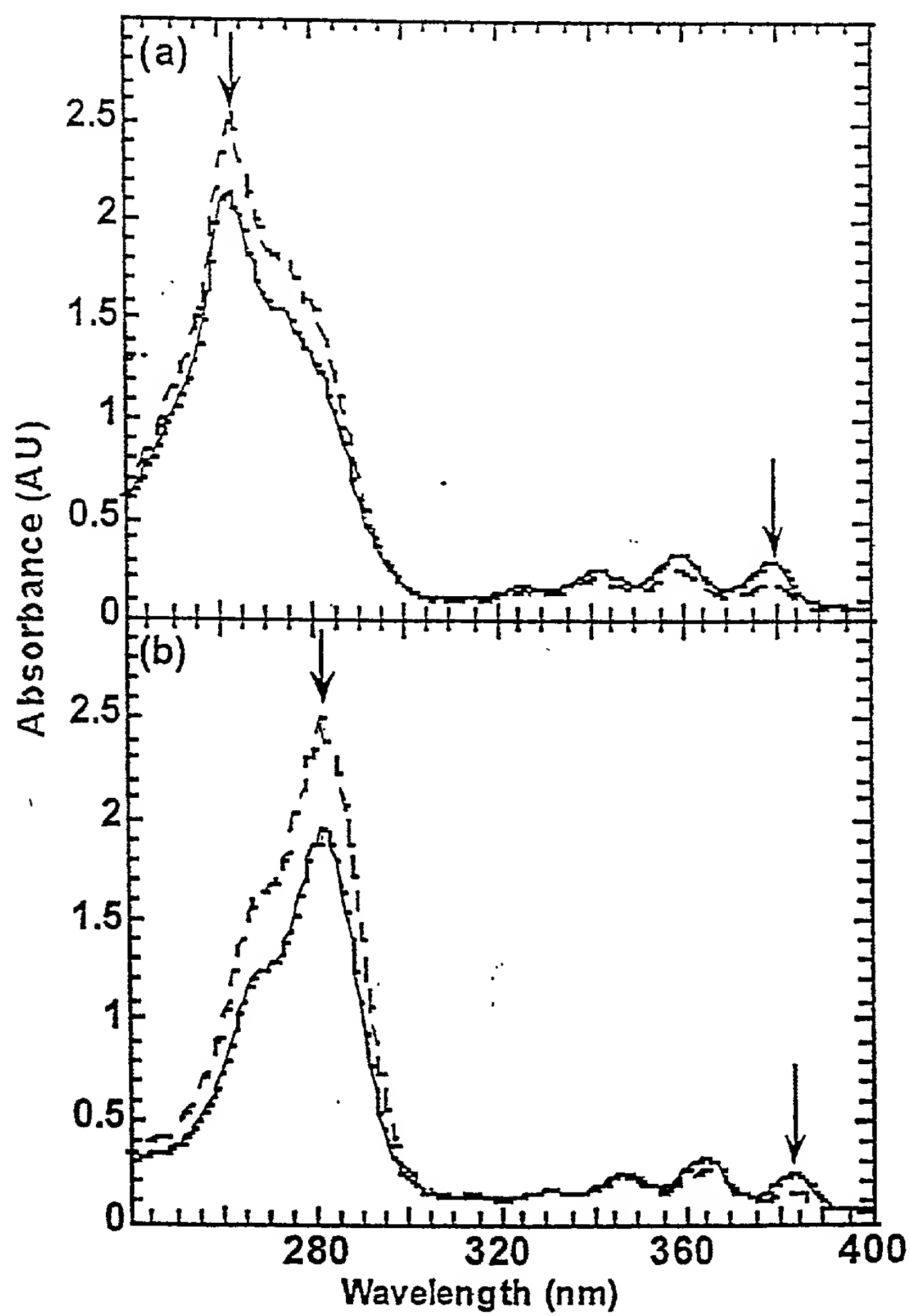
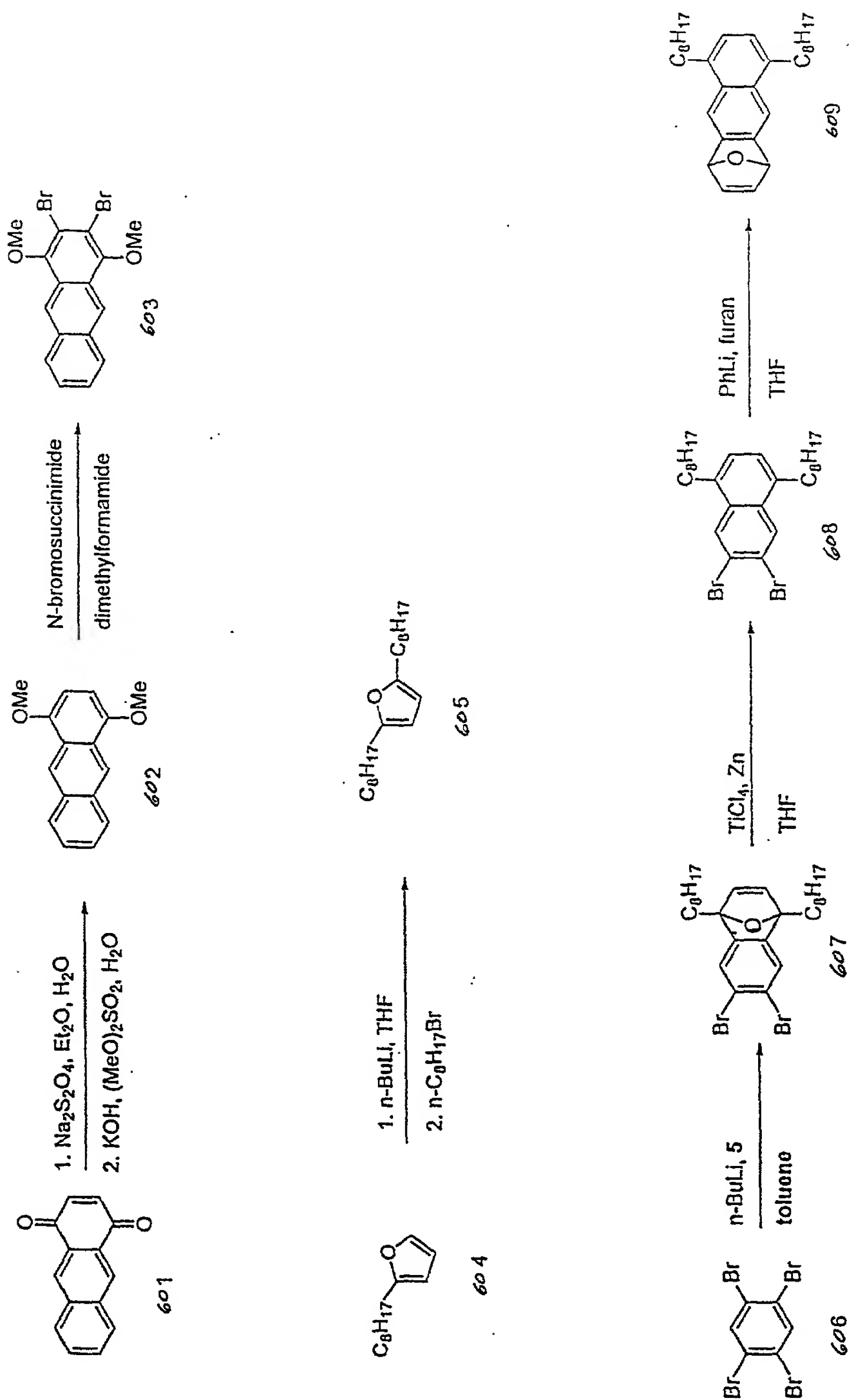
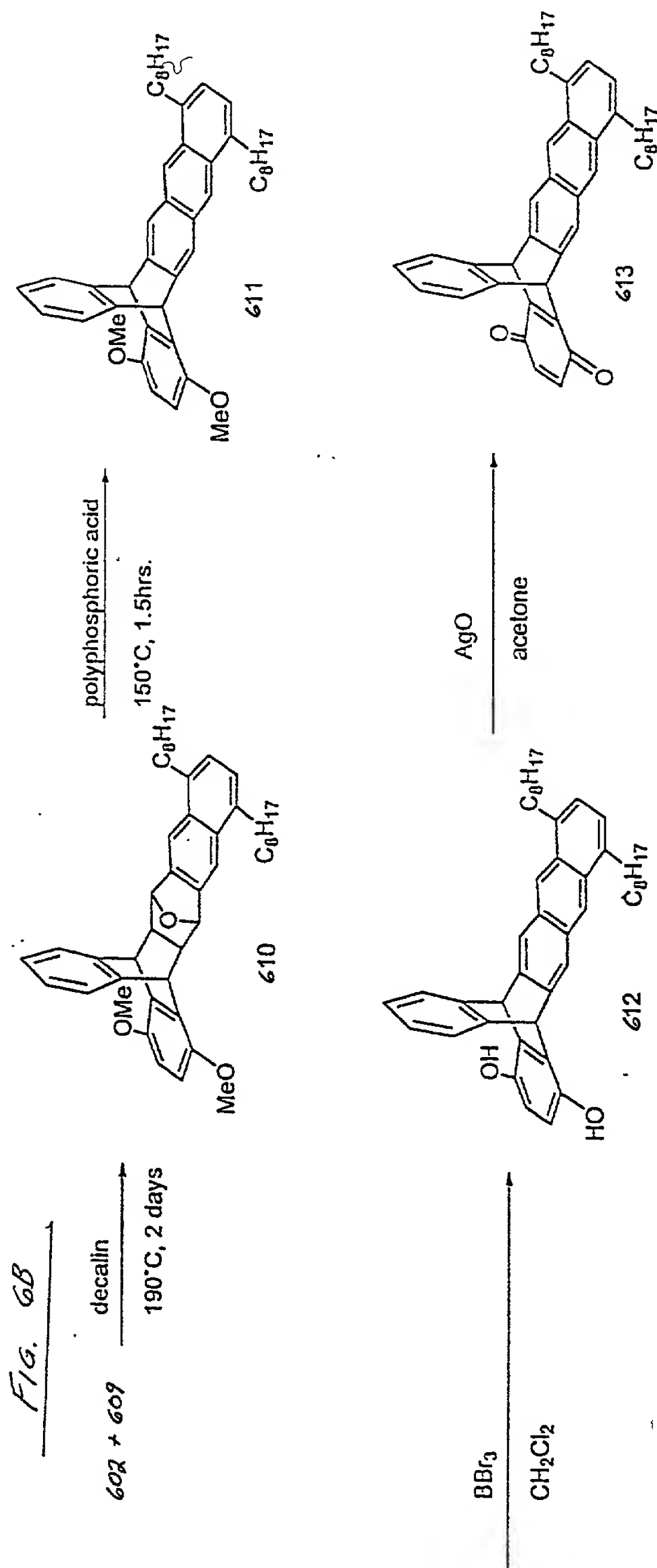


Fig. 6A



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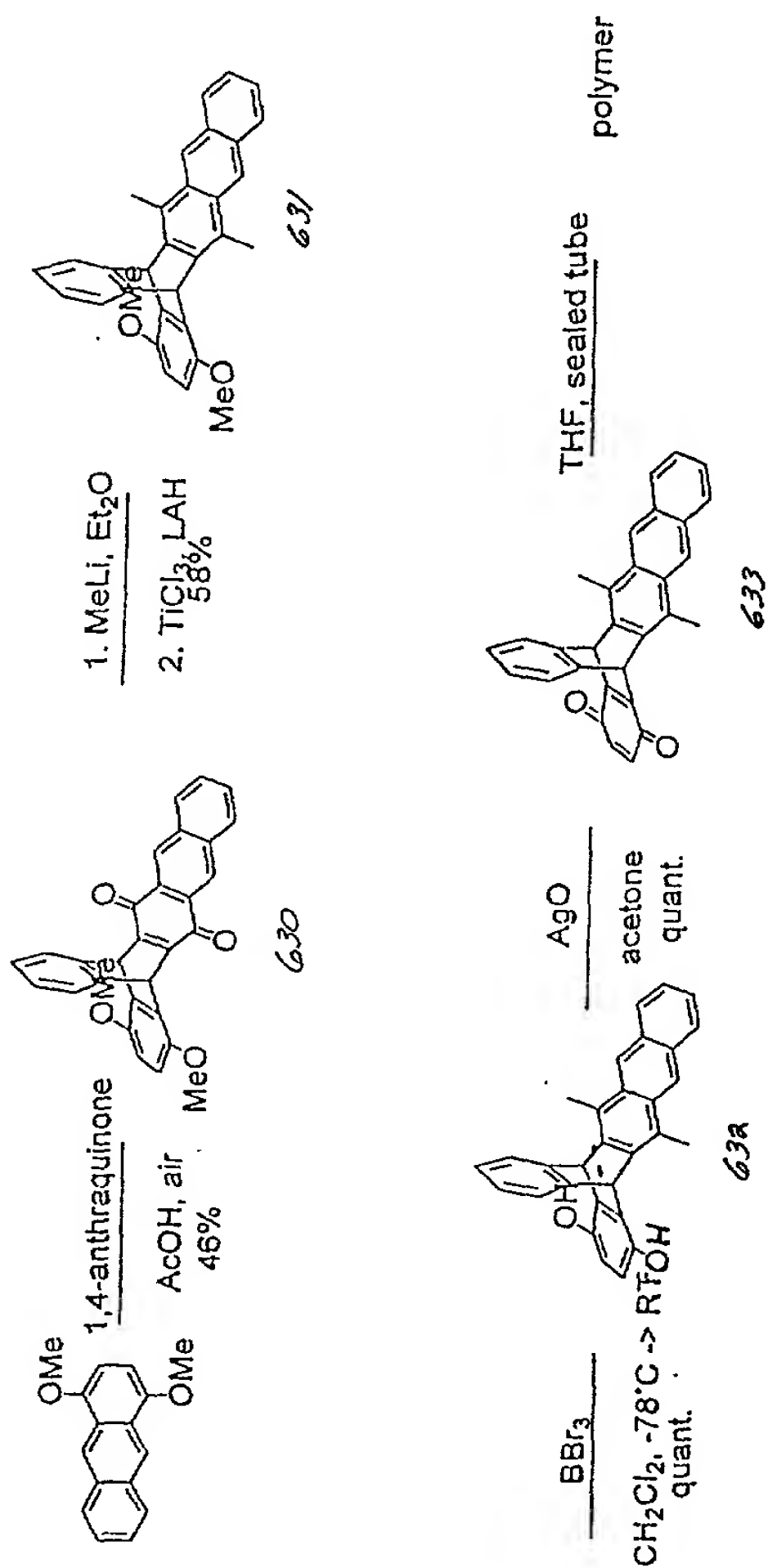


Fig. 6C



Fig. 6E

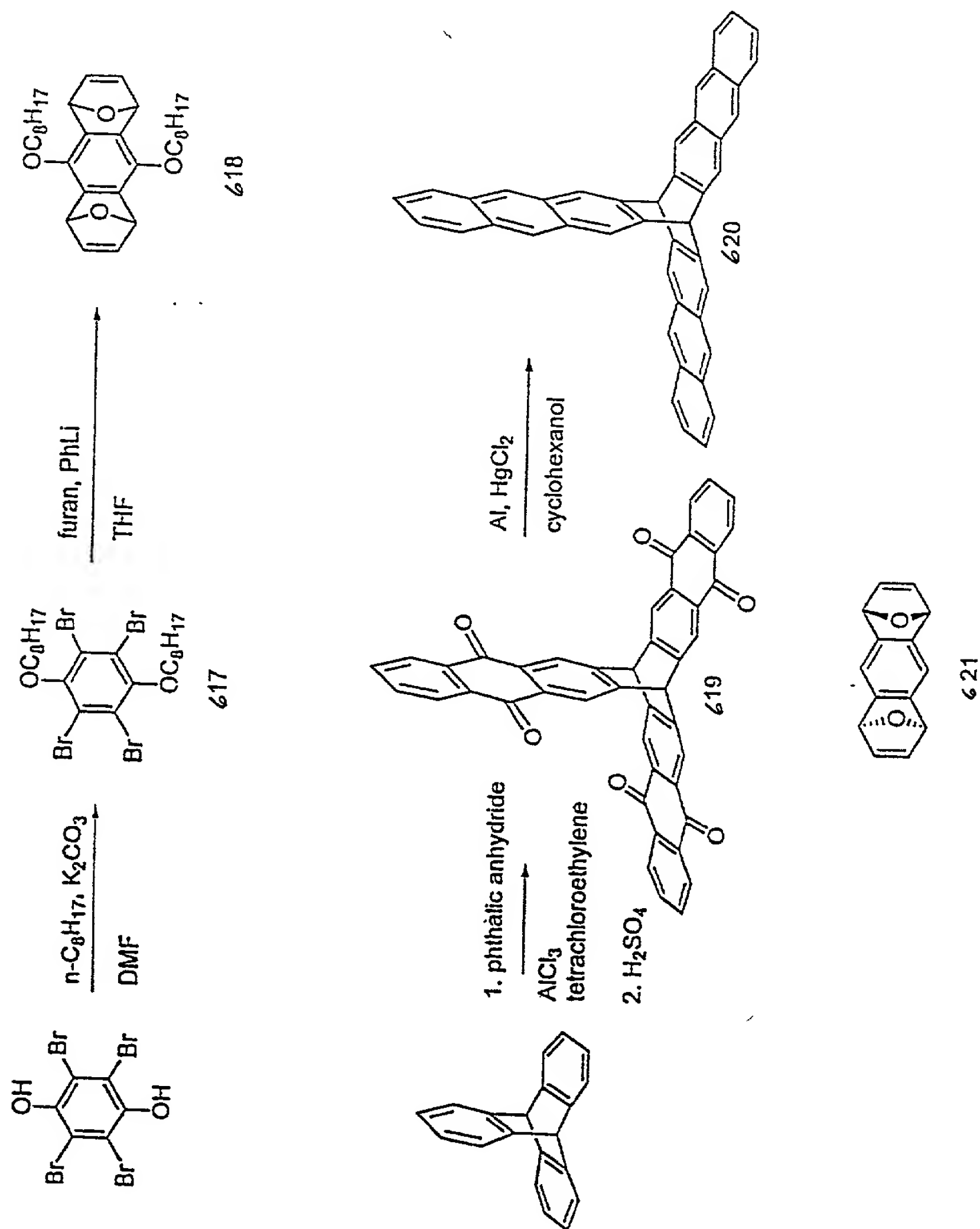
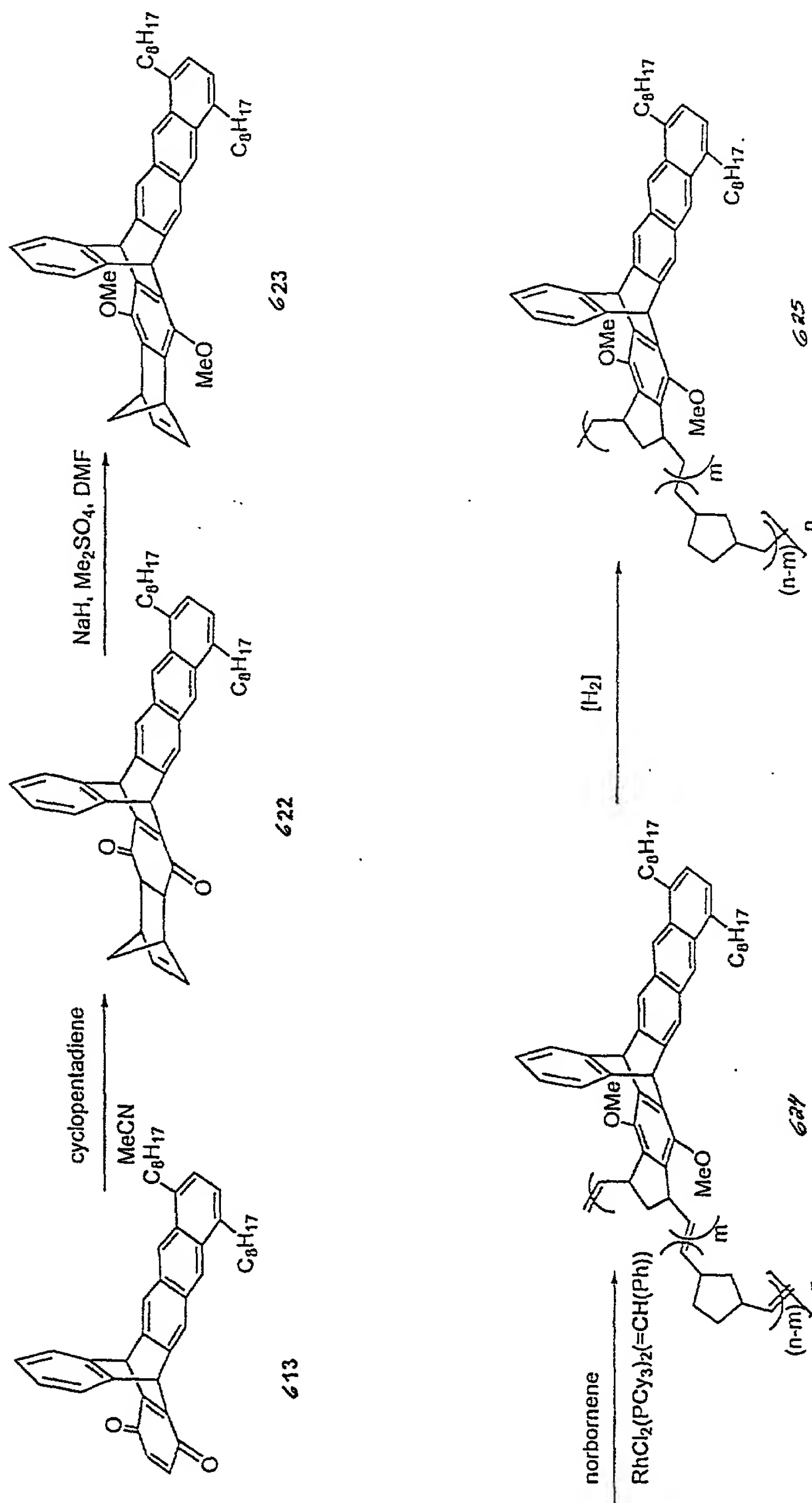


Fig. 6F



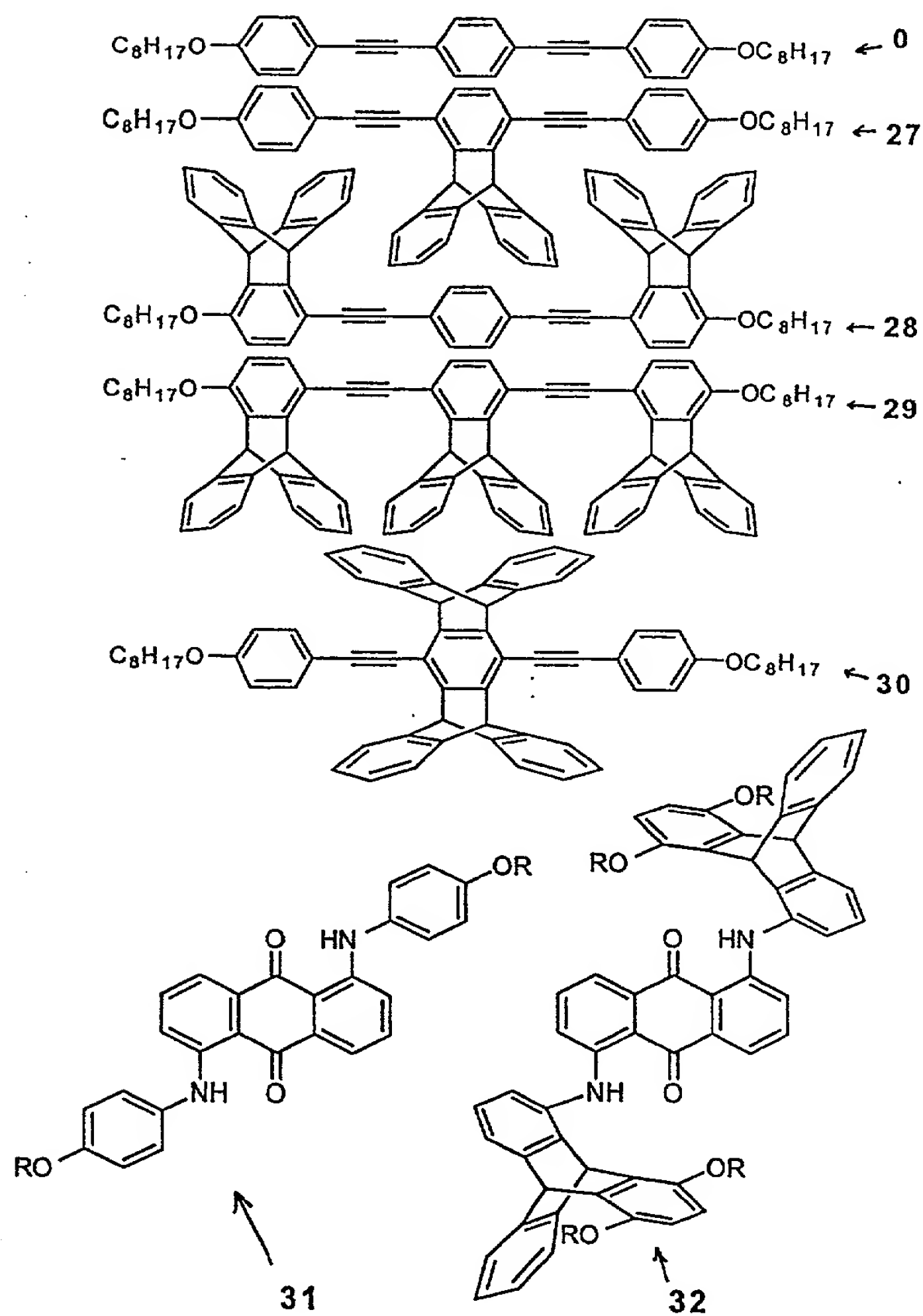
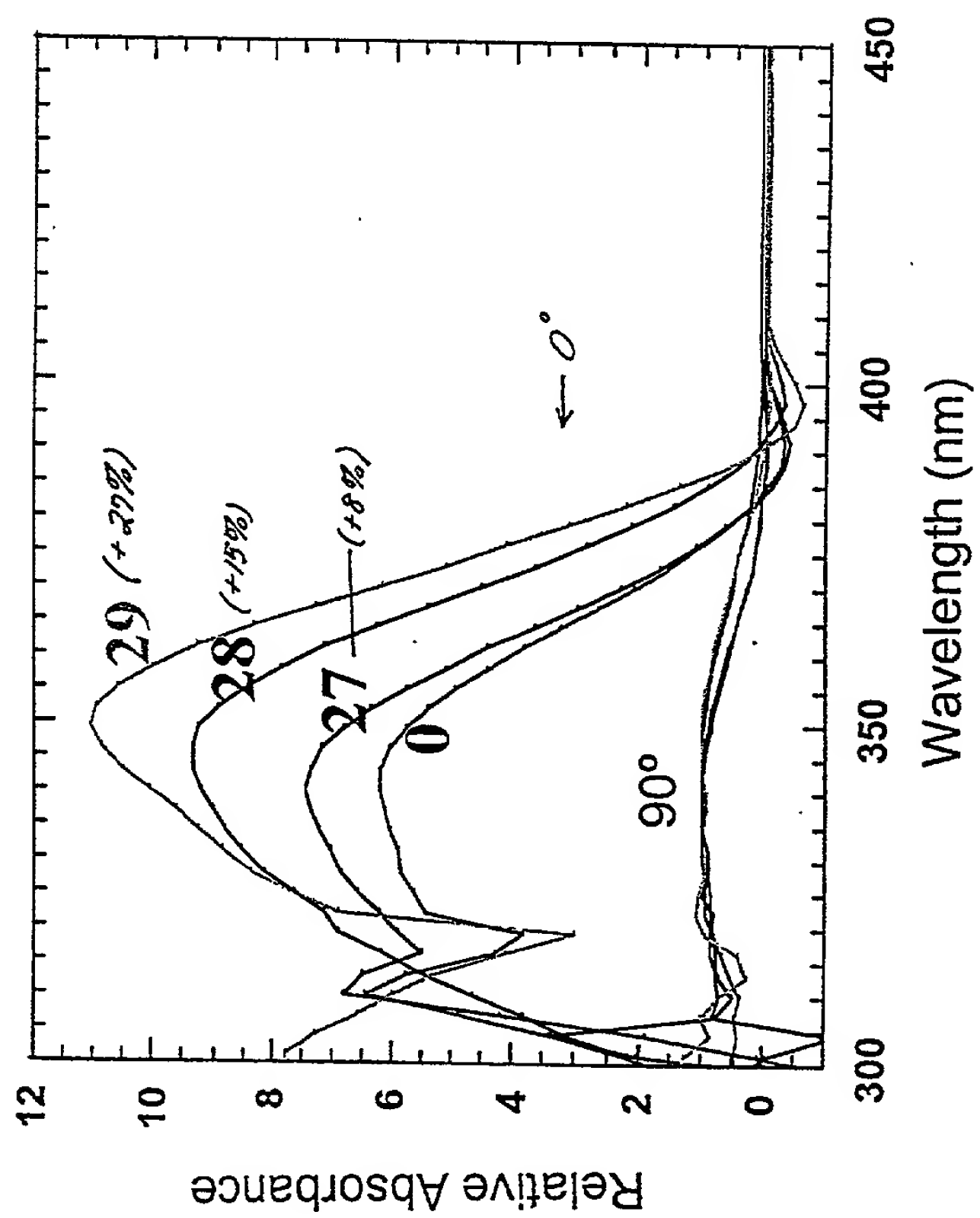


Figure 7. ($\text{R} = \text{nC}_8\text{H}_{17}$)

Figure 8.



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Figure 9

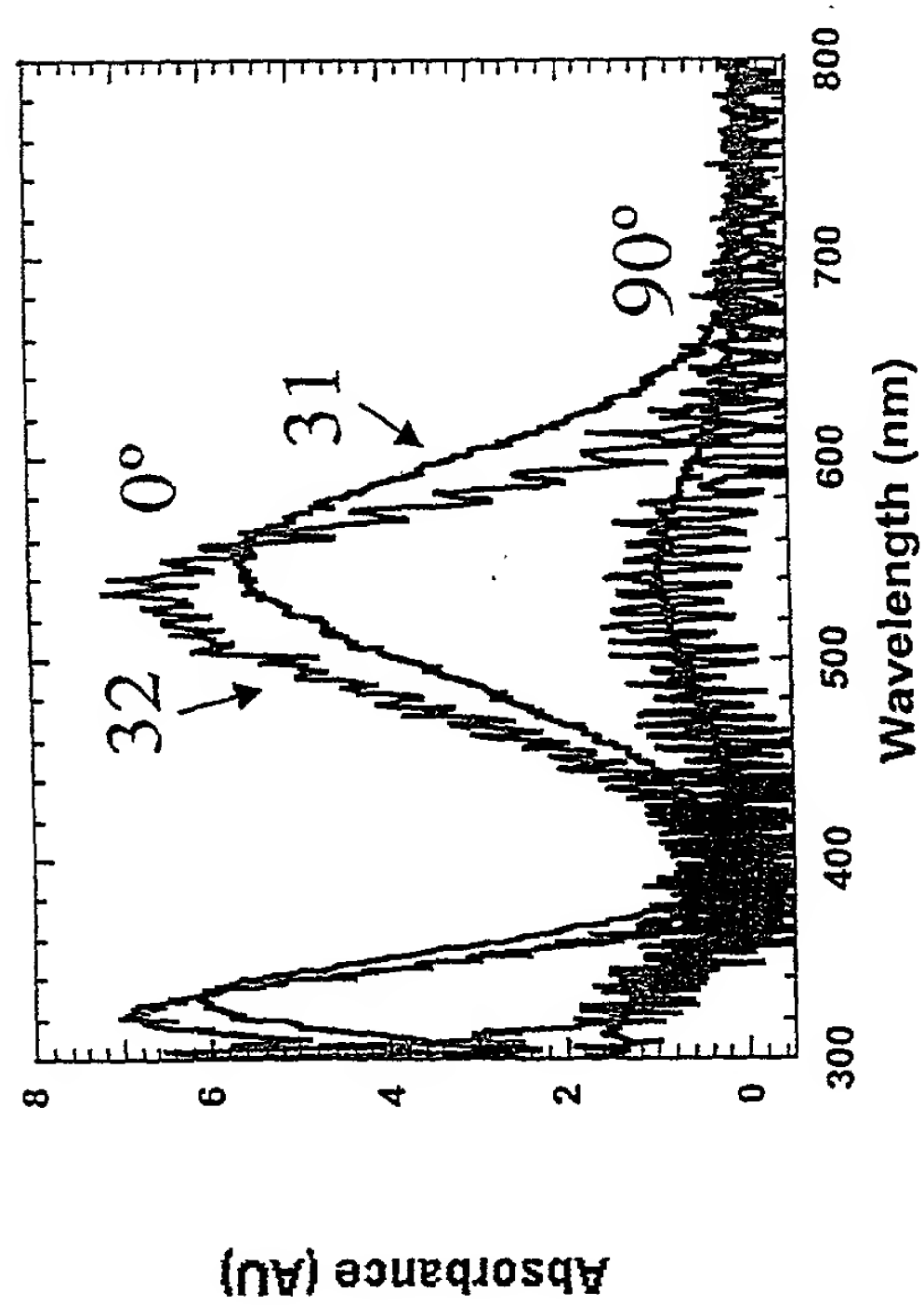


Fig. 9A

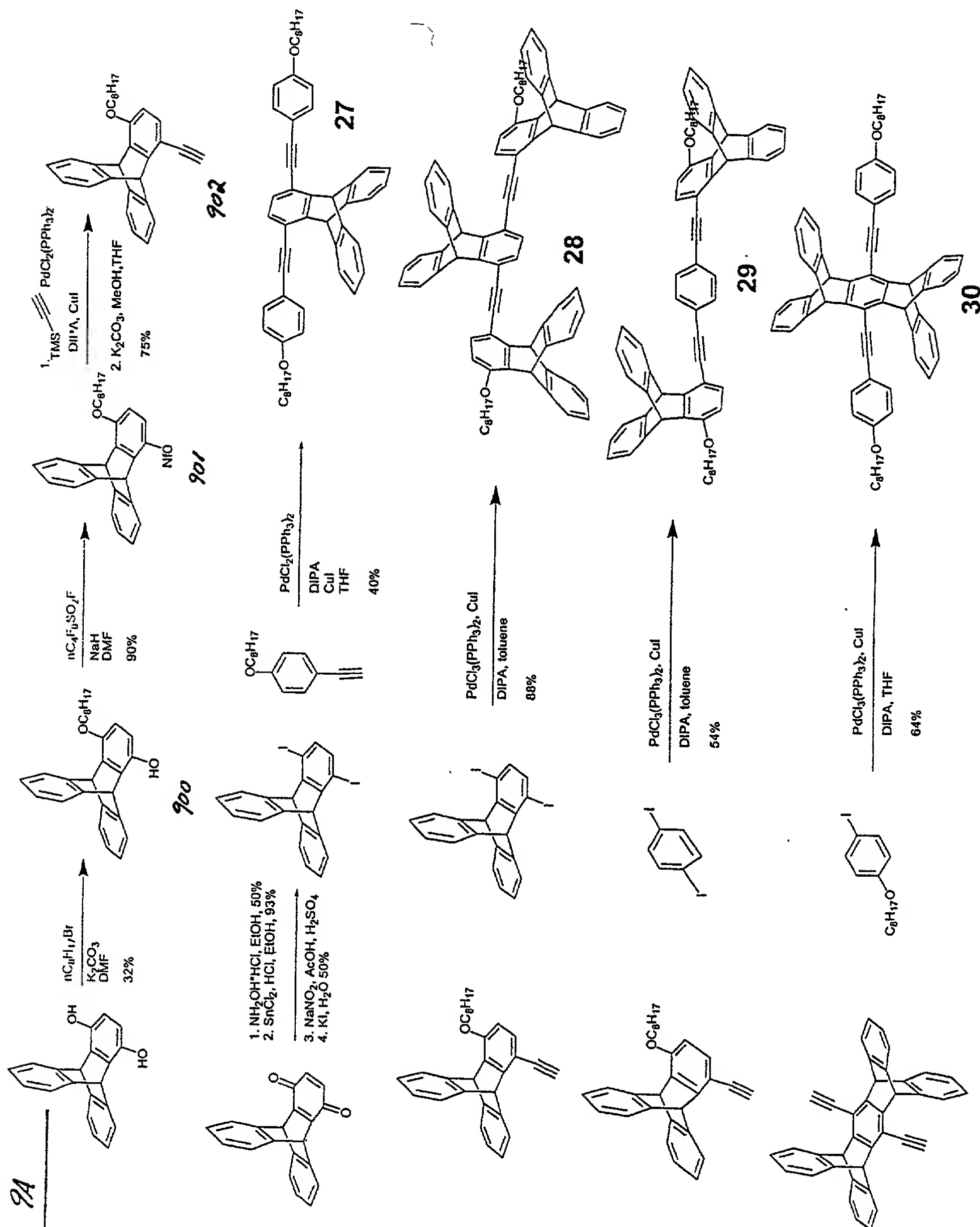
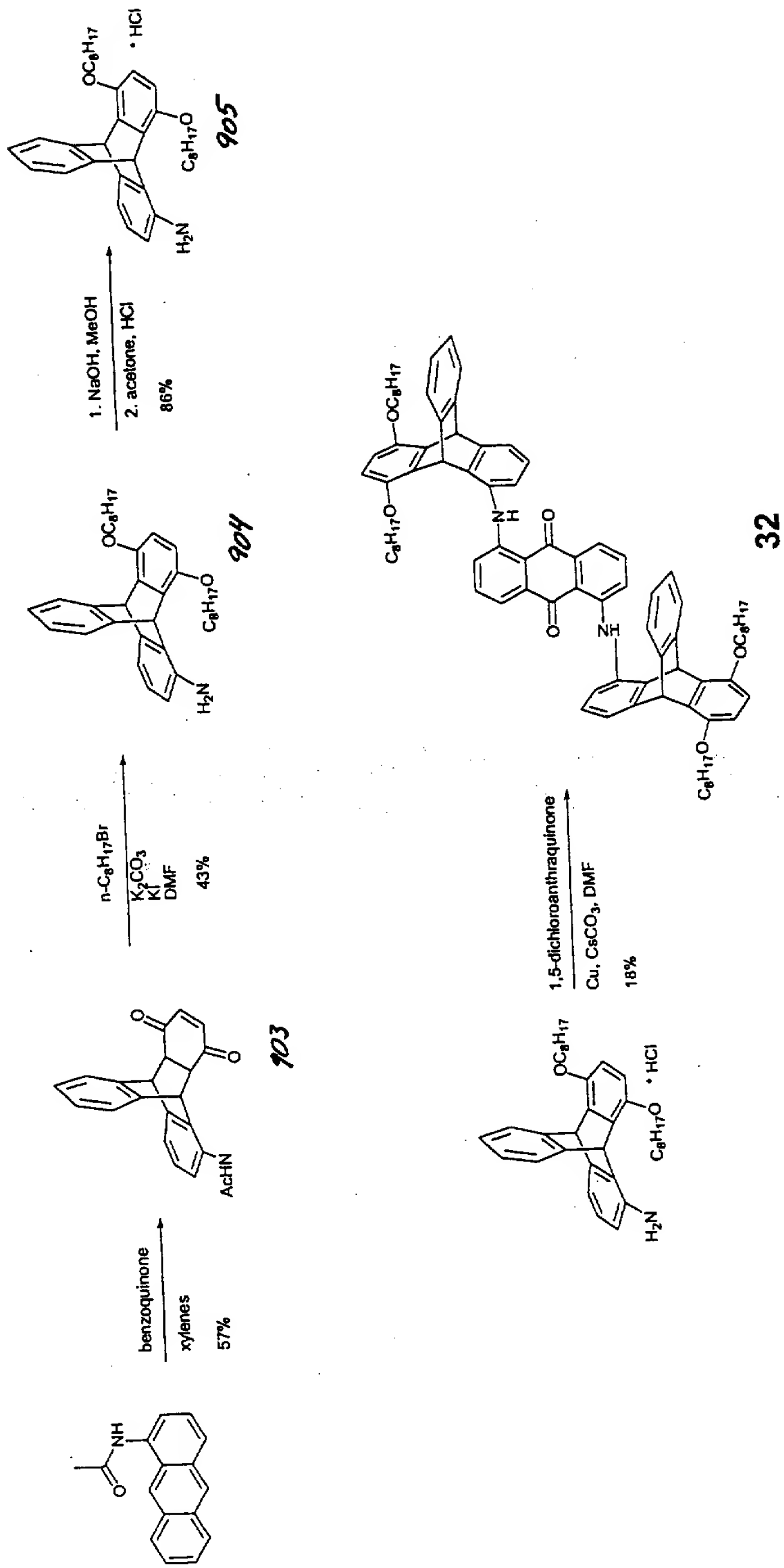


Fig. 9B

SCANNED, # 12



SCANNED, # 17

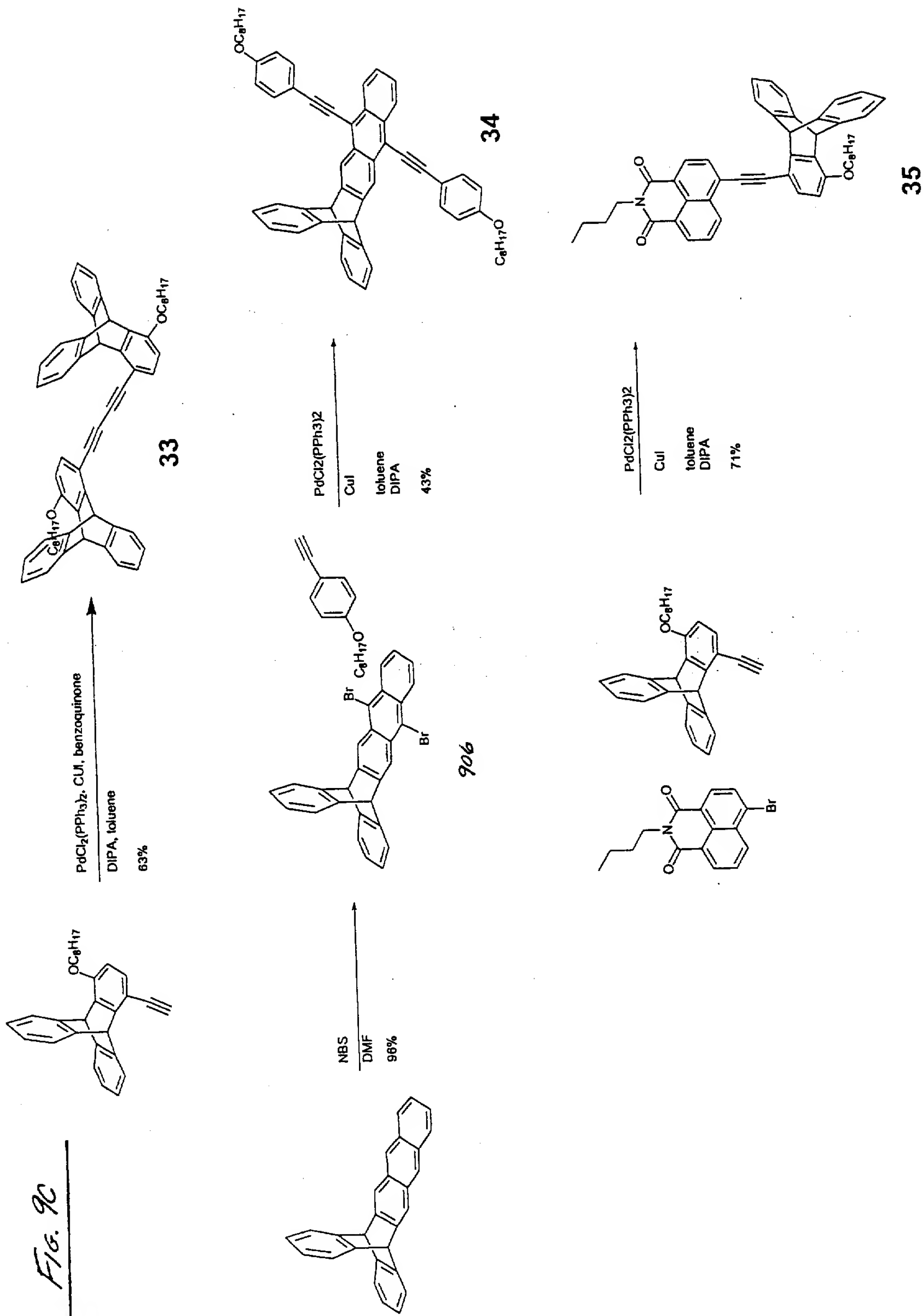


Fig. 9D

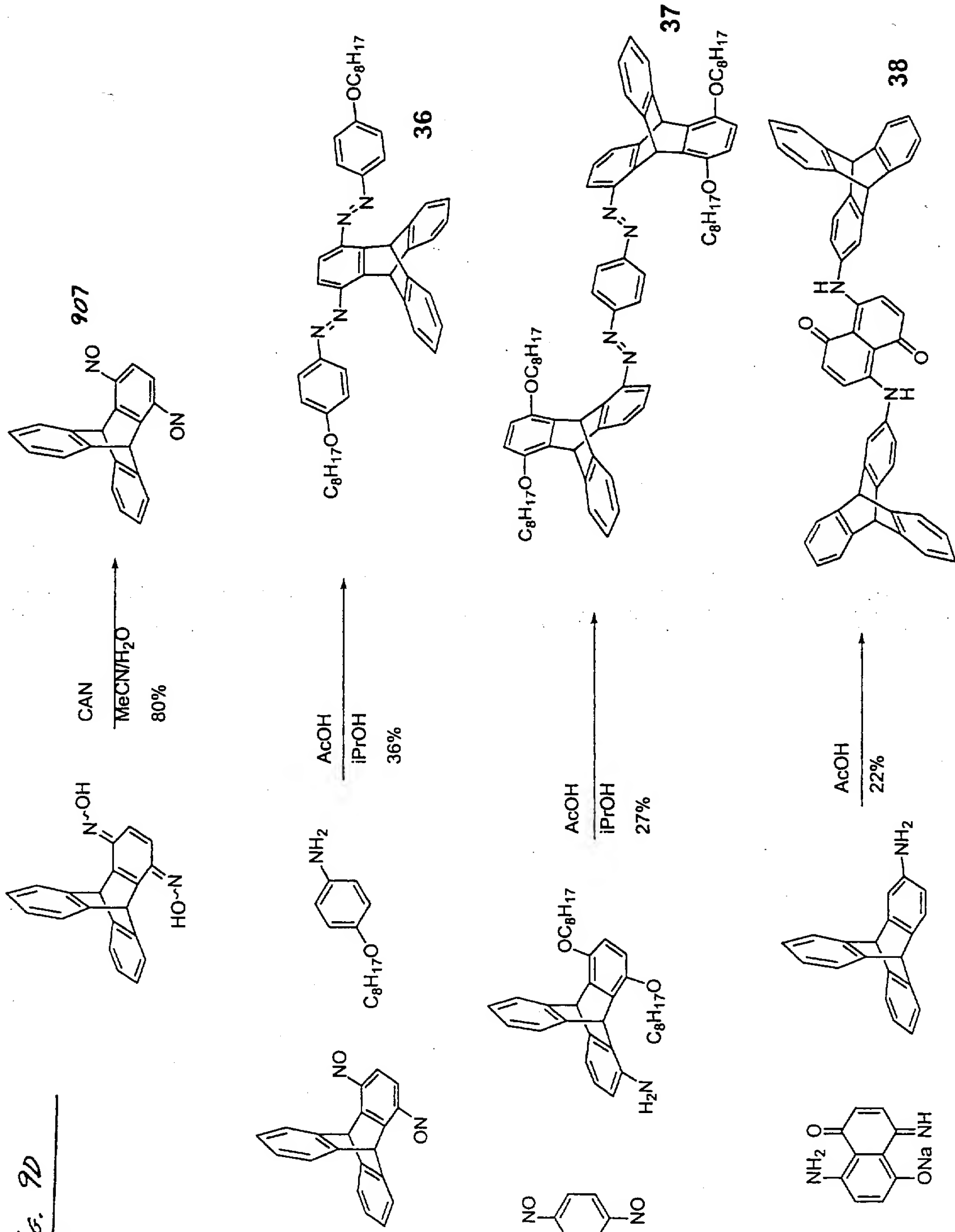
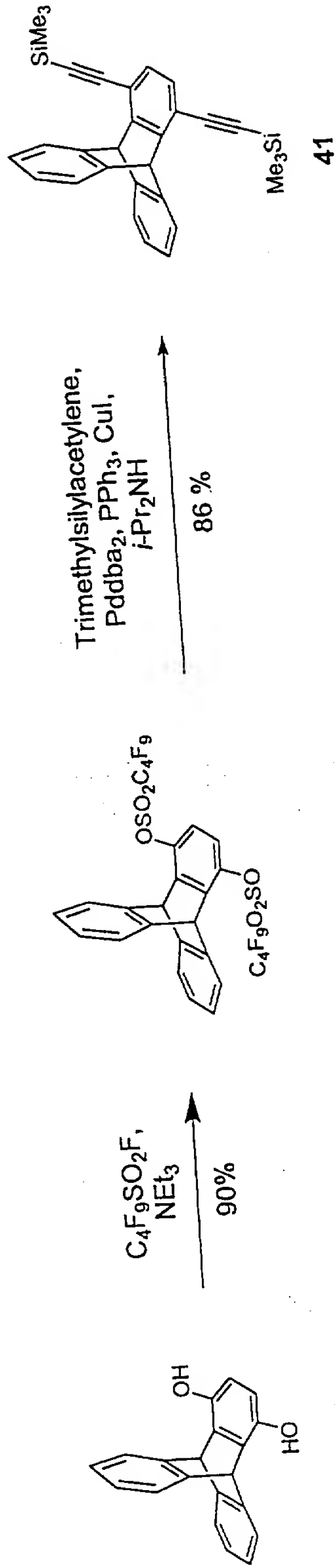
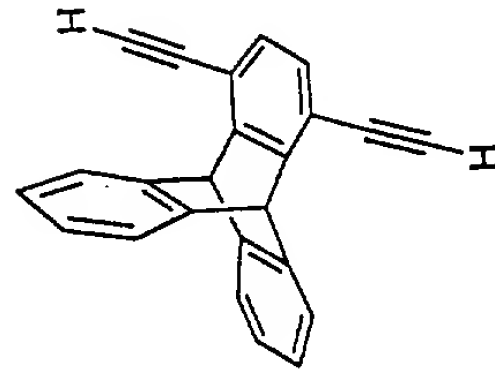


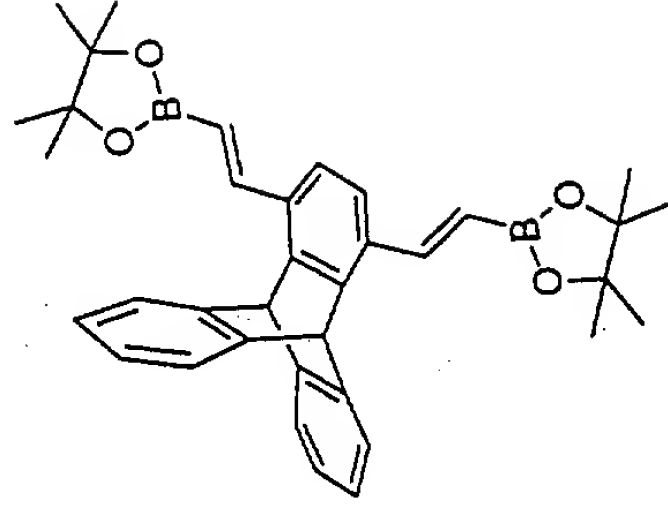
Fig. 9E



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Fig. 9F

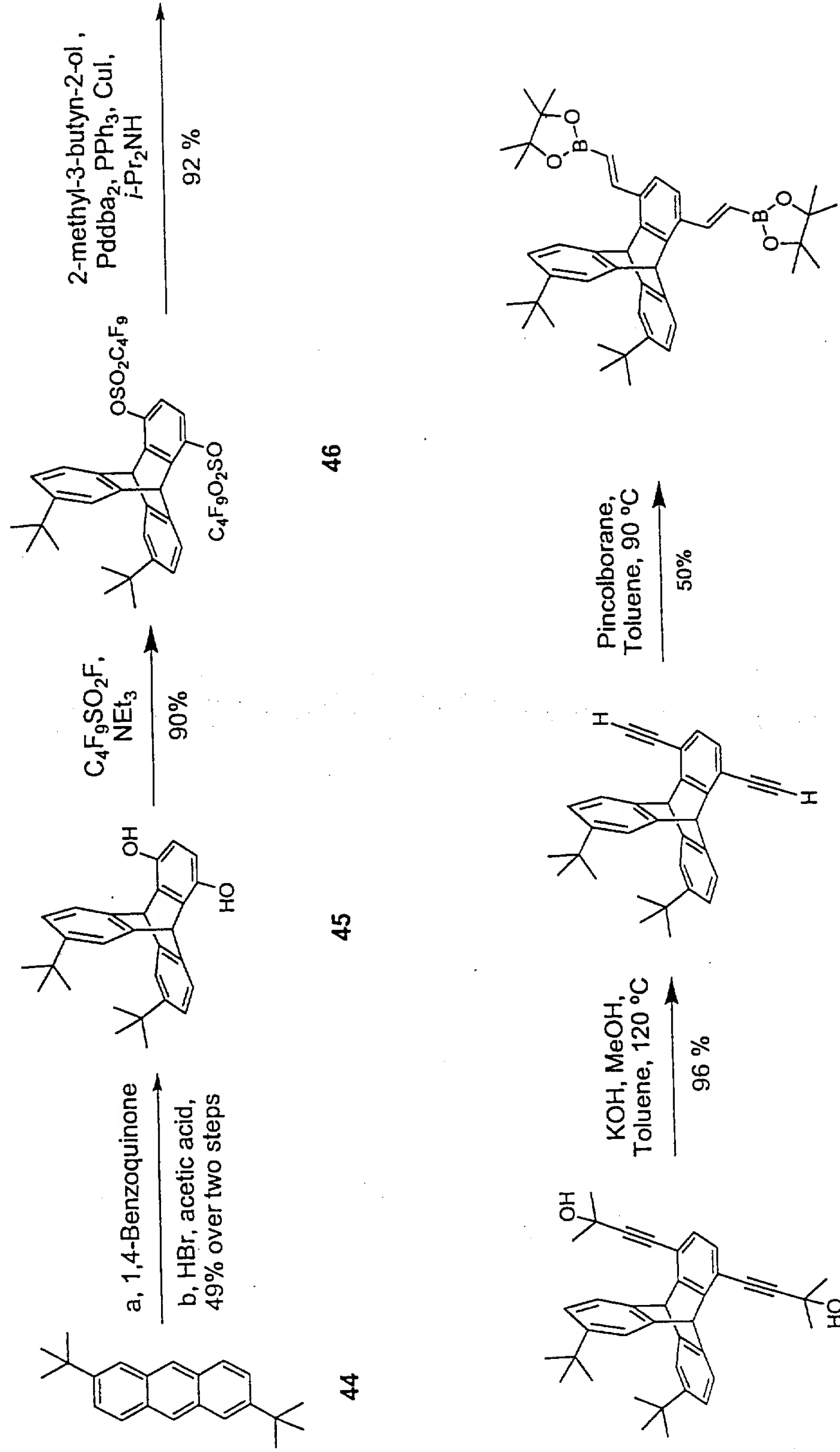


Fig. 9G

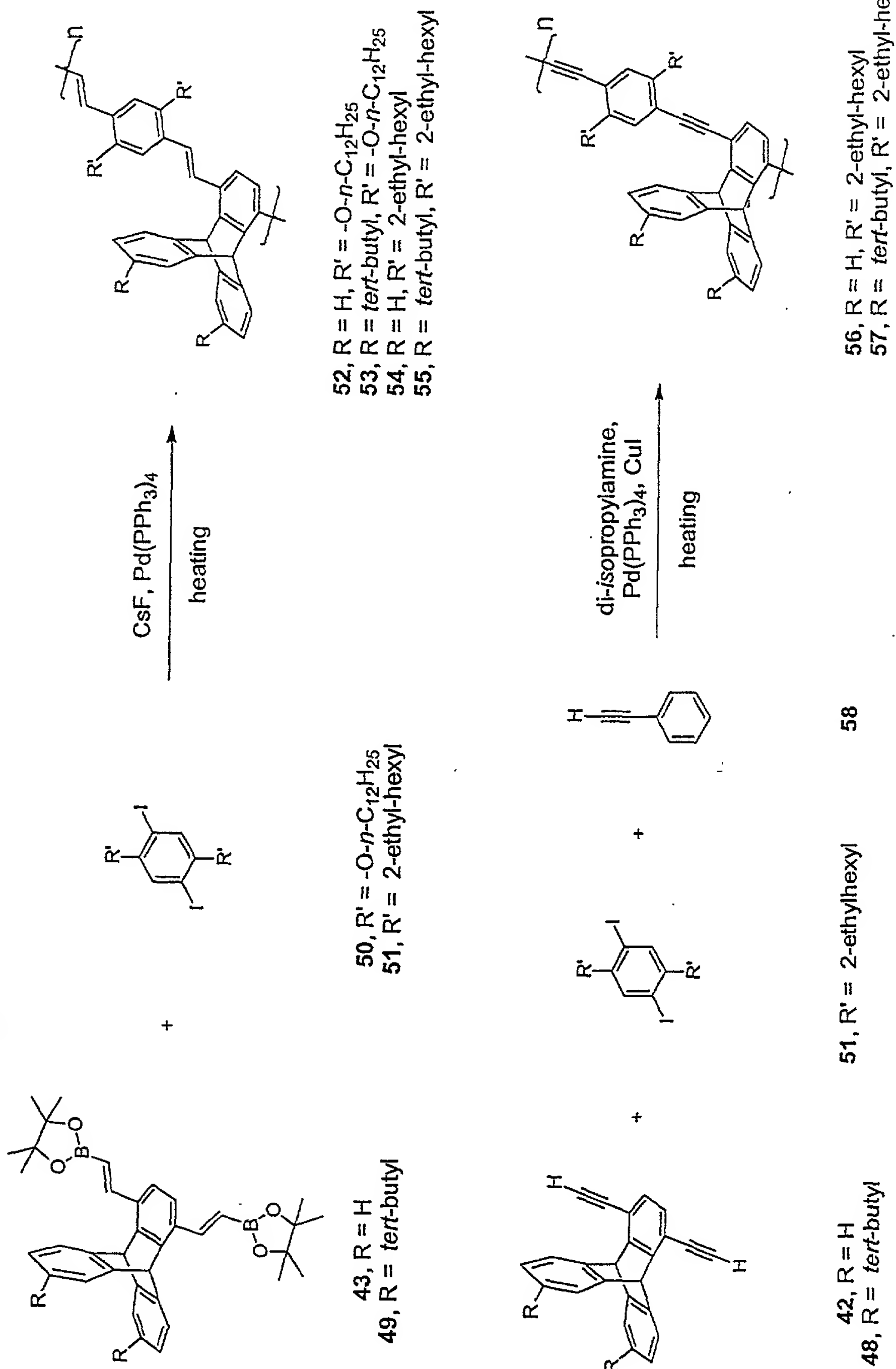
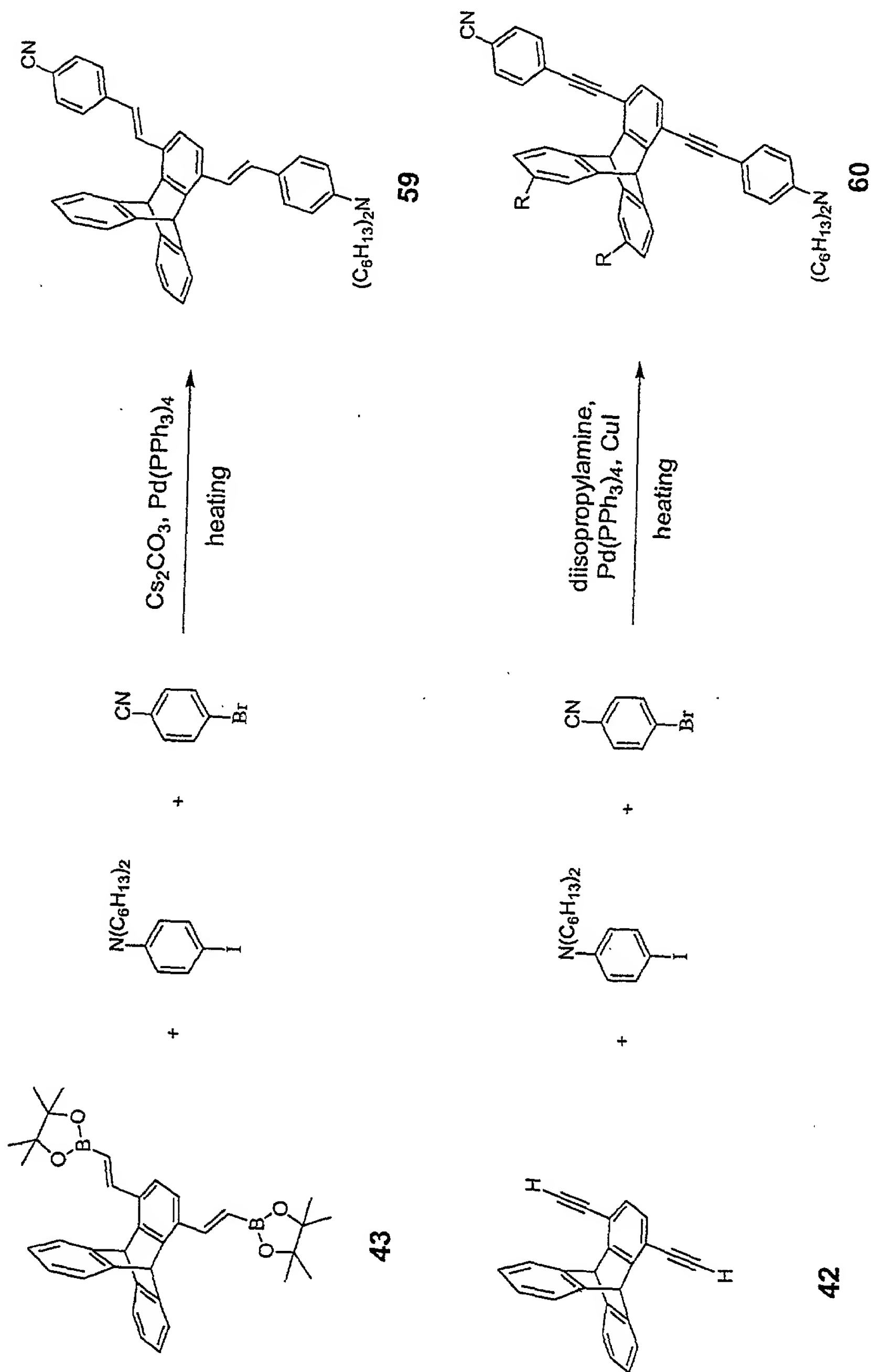


Fig. 9H



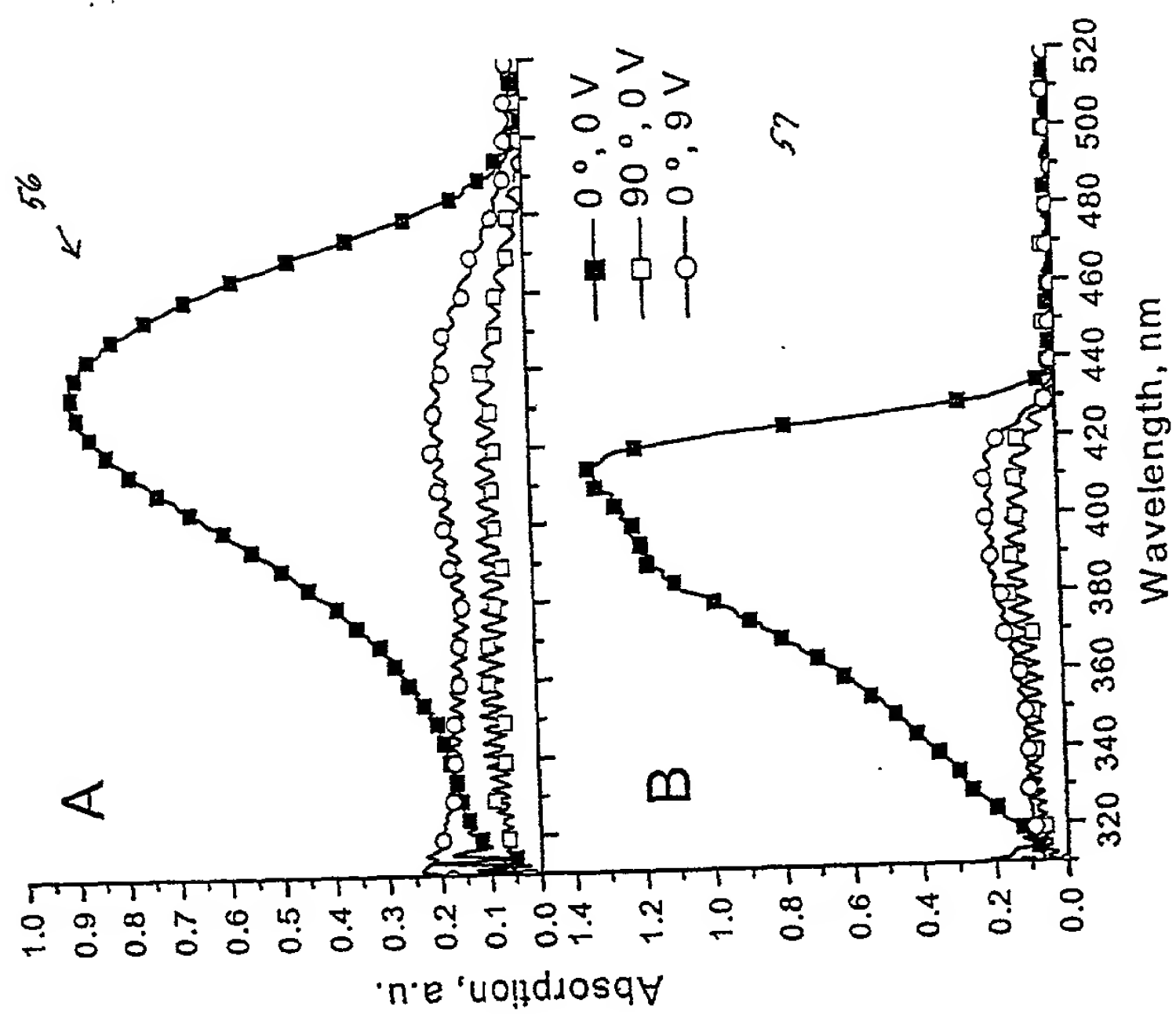


Figure 10

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Figure 11

